THE BRICKBVILDER

VOL. 12 No. 10 — DEVOTED · TO · THE · INTERESTS · OF ARCHITECTVRE · IN · MATERIALS · OF · CLAY — OCTOBER 1903

THE BRICKBUILDER.

PUBLISHED MONTHLY BY

ROGERS & MANSON,

85 Water Street, Boston, Mass. . . P. O. Box 3282.

Entered at the Boston, Mass., Post Office as Second Class Mail Matter, March 12, 1892.

COPYRIGHT, 1893, BY THE BRICKBUILDER PUBLISHING COMPANY.

Subscription price, mailed flat to subscribers in the United States and Canada . . . . . $5.00 per year
Single numbers . . . . . 50 cents
To countries in the Postal Union . . . . . $6.00 per year

SUBSCRIPTIONS PAYABLE IN ADVANCE.

For sale by all newsdealers in the United States and Canada. Trade supplied by the American News Company and its branches.

ADVERTISING.

Advertisers are classified and arranged in the following order:—

	PAGE		PAGE
Agencies.—Clay Products	II	Cements	IV
Architectural Faience	II	Clay Chemicals	IV
" Terra-Cotta	II and III	Fire-proofing	IV
Brick	III	Machinery	IV
" Enameled	III and IV	Roofing Tile	IV

Advertisements will be printed on cover pages only.

IN 1901 the upper portion of the building occupied by the Boston *Advertiser* was destroyed by fire. Incidental to the adjustment of the insurance loss upon the structure it was found that the building laws were so framed as to practically prohibit the building being restored to its former condition, and that if it were to be restored at all the reconstruction would involve an expense of some fifteen thousand dollars more than would have been necessary to merely put the building back in its first condition. The owners naturally made a claim on the insurance companies for the larger amount, about forty-six thousand dollars, and after a long fight in the courts the Supreme Court of Massachusetts has decided that under a general policy not specifically limiting the loss to what would be necessary to put the building back in its former condition the insurance companies must pay the full amount required, taking into consideration full compliance with the existing laws. This seems like hard justice for the insurance companies, and the Boston *Herald*, in an editorial manifestly inspired by insurance circles, objects decidedly to this interpretation. The decision might doubtless in many cases work hardship in the companies. Section 20 of the Building Law states that "no permit for the alteration or repair of a wooden building within the building limits shall be granted if the cost of the proposed alteration exceeds 50 per cent of the cost of renewing the building." There are still within the fire limits of Boston many wooden structures, some of which date back over a century. There have been a few cases where a permit to rebuild such structures after a fire has been refused in accordance with Section 20 just cited, and in such cases, considering the recent decision of the Advertiser suits, the insurance companies would be liable for the cost of a new building of far better construction than that destroyed. This seems unfair to the companies, but the real point is that their policies in most states indemnify the owner against loss, and if conditions are such as to require a special form of rebuilding it seems no more than equity for the companies to accept and pay for that method. We cannot help a feeling that there will come before very long a radical revision of the methods of proportioning both premiums and insurance, and when that readjustment takes place it is earnestly to be hoped that the companies will somehow be able to so arrange a sliding scale that it will be for everybody's interest to build well and thoroughly and in a fireproof manner instead of, as now, being able to build in almost any method and then protect themselves against loss merely by paying a sufficient premium. Insurance ought to be, and can be, an encourager of good building. The immediate obligation to the insured is one of indemnification. The larger obligation to the community on the part of the insurance companies is to foster good construction.

ARCHITECTURE is assuming strenuous proportions as a profession, and the importance of the architect thoroughly knowing his business is appreciated to a wider extent than ever before. There have been of late a number of articles in the papers upon the subject which show that, while the architectural opportunities have enormously increased in number and size, the demand upon the architect has increased in an even greater ratio, so that to be an educated, trained architect means a great deal more than ever before and carries with it very grave responsibilities. It is no longer enough to have influential friends, nor to have passed through a technical school with brilliant record. One must have both of these together with a degree of business executive ability which finds its parallel only in the management of some of the large trusts, if one is to reach the highest possibilities of the profession. Indeed, in one sense the architect i really trustee for the owner and the builder, and though he is paid by the former it is part of his business to see that both parties receive fair treatment; and in order to do this he must know pretty thoroughly his client's, his builder's and his own business.

Thirty-Seventh Annual Convention, American Institute of Architects.

REPORT.

THE annual convention of the American Institute of Architects was held at the Hollenden Hotel, Cleveland, Ohio, on October 15, 16 and 17, about ninety delegates being present. It was opened by President McKim; Mayor Tom L. Johnson of Cleveland, who was to welcome the visitors, being unable to be present. His absence, however, was fully atoned for by the warmth of the welcome extended by the members of the local chapter.

The report of the Board of Directors was read by Frank Miles Day of Philadelphia. It stated that the total membership was 754, of whom 359 were fellows and 395 associate members. Five fellows and eleven associates were added and twenty dropped. Twelve members and honorary members had died. The need of further organization of the architects was urged, as was the institution of a fund for the further development of instruction and the maintenance of the Octagon. The amount hitherto subscribed for payment on the Octagon was reported as about $13,000, and the taxes and interest were a heavy burden on the resources of the Institute. This statement awakened great interest, and during the convention, by the efforts of Mr. Carrère, about $10,000 more was pledged. This was followed by reports of the treasurer, Auditing Committee, Chapters and House and Library Committee, which reported repairs to the Octagon and additions to the library.

H. L. Warren, for the Education and Publishing Committee, referred to the retirement of Professor Ware from active practice, and resolutions were adopted appreciative of his lifelong services to the profession. Reports were read from all the architectural schools in the United States. Glenn Brown reported for the Foreign Correspondence Committee that reports had been received from eight or nine foreign architectural societies relative to the remuneration of architects. The Contract and Lien Law Committee — Alfred Stone, chairman — reported the sale of 69,491 Uniform Contracts. No report was received from the Applied Arts and Sciences Committee, the chairman being absent. George B. Post, chairman of Legislative Committee on Government Architecture, reported that government officials have the impression that architects are too highly paid and show a disposition to turn the designs over to government engineers for execution, and that action was necessary to prevent injury to the architecture of the Capital City. The directors were directed to protest against the extension of the Capitol being intrusted to incompetent hands. Mr. Post's remarks on the subject of superintendence as distinguished from supervision were very interesting to the younger architects.

Mr. Mundie of Chicago suggested the appointment of a delegate to the meeting of National Fire Protection Association each year.

Mr. Boring, chairman of the Improvement of Washngton Committee, recommended that the matter of the improvement of Washington be not taken up at present. The Committee on Metric System reported that the bill would probably come up in the next Congress.

An invitation to the International Congress of Architects to next meet at Washington was authorized.

On Tuesday afternoon a delightful tallyho ride through the charming parks and suburbs of Cleveland was enjoyed through the courtesy of the local chapter. A stop was made at the Country Club, and supper was taken at the Euclid Club.

At the evening session papers by Theodore N. Ely, John La Farge, Augustus St. Gaudens and E. H. Blashfield were read, but none of these gentlemen were present, so the interest due to personality was lacking. Mr. Blashfield's paper was interesting, he strongly advocating Rome as a place of study for decorative painters on account of its central location in relation to the great galleries and works of art. He said only technically prepared graduates should be sent there, however, and such pupils can select from the mass of material that for which they are best fitted and can adorn their work with the experience of others. The artistic atmosphere of Rome is freer from passing clouds than that of Paris. Culture is the need of American art, "but not the culture of penny pictures of the Sistine Madonnas which are cut out by children to paste on boxes." From Rome as a center the student can study the use of gold in mural decoration at Palermo, Monreale, Ravenna, Venice and Siena and tricks of ceiling decoration at the Ducal Palace at Venice. He said that before long an example of the work of the American School at Rome would be seen on the walls of New York. Mr. St. Gaudens's paper stated that if the American Academy at Rome helped only one pupil in a century it would be worth while. Austin W. Lord then read a paper on "The Significance of Rome to the American Architectural Student," which was of much interest and was well received.

Friday morning's session commenced with the appointment of special committees and the report of the Committee on Credentials, the latter evoking a lively discussion.

Mr. Boring stated that the Washington Improvement Commission had effected the removal of the Pennsylvania Railroad Station from the Mall, and that the contract for the new station had been let. The Lincoln Monument was to be located in accordance with the new design. Twenty-five million dollars' ($25,000,000) worth of improvements are now under way on the lines of the new scheme.

Nominations were made for officers, and an interesting discussion was entered upon regarding the place of holding the next convention. In behalf of the St. Louis Chapter, Mr. Ittner invited the Institute to St. Louis. The opinion, however, seemed to prevail that the convention ought to be held in Washington, on account of the still doubtful attitude of Congress towards the new plan of Washington and the profession in general. The matter was finally left to the governing body of the Institute. Honorary members were elected as follows: Aston Webb of England, Victor Laloux of France, Hon. Joseph Choate, American Ambassador to England, and Theodore Cooper of New York. Frederick Crowninshield of New York and Owen Fleming, consulting architect of the London County Council, were elected corresponding members,

and William M. Kendall and Austin W. Lord were elected to fellowship.

A resolution to appoint a committee to confer with that of the Architectural League of America was adopted.

Mr. Carrère then explained the group plan of the city of Cleveland, drawings for which were hung upon the walls.

A long discussion ensued upon the matter of revising the schedule of charges, but no tangible result was reached beyond the general impression that no allowance should be made for non-superintendence.

In the evening a banquet was given to the members at the Century Club by the Cleveland Chapter, which proved to be a most delightful occasion and was enjoyed to the utmost by all present.

Saturday morning's ballot resulted in the election of W. S. Eames of St. Louis as president of the American Institute of Architects; Frank Miles Day of Philadelphia, first vice-president; W. A. Boring of New York, second vice-president; R. D. Andrews of Boston, C. F. McKim of New York and George B. Post of New York as directors; J. C. Hornblower and J. G. Hill of Washington as auditors; and Glenn Brown as secretary and treasurer.

After hearing further reports from committees the convention adjourned.

PRESIDENT McKIM'S SPEECH.

Ladies and Gentlemen:

ONCE more it is my privilege to welcome you to an annual convention of the American Institute of Architects, the thirty-seventh.

Last year, as the guest of the Washington Chapter, we met in the Capital City to discuss the affairs which bring us annually together. This year it is our good fortune to be welcomed by our brothers of the Cleveland Chapter. Not only is this true, but we are assembled here in a community whose splendid spirit of progress in recent years has placed it in the front rank of cities in the march of public improvement.

The tribute to the Institute you make by your presence is abundant proof of your interest at a time when the demands of professional practices are both numerous and imperative. Last year we rejoiced that the Institute, after nearly half a century of existence, had come into possession of a permanent home, of which, as one of the historic monuments of the country, we are justly proud.

Remembering the dispatch of "sympathy" sent us on the day of President McKinley's death by the president of the Royal Institute of British Architects, the receipt at this moment of our convention of a message from the same source attests the increasing and cordial interest with which the problems surrounding our advancement are regarded in England.

At this unsettled stage of our professional relations with our own government, it is especially gratifying to feel that the older professional body of the mother country, whose relations with their government are already well established, are not indifferent to the interests of their younger colleagues on this side of the water, in answer to the questions now pending between Congress and our profession, so vital to the welfare of both. President Webb's message brings timely encouragement to our Committee on Government Architecture and "on the improvement of Washington," but we cannot fail to appreciate still more strongly the spirit which prompted him to send it.

He cables: "War Office, Public Offices, Museum, College of Science, five per cent on estimated cost. Washington Commission Park improvement plans as fine as anything could be." (Signed) WEBB.

Indeed, if I may be permitted to digress for a moment, the intelligent interest in the details of the Park Commission scheme, not only by London men, but by members of the allied societies elsewhere, is more general and outspoken than some of us realize.

Your Commission has received during the present year many letters and expressions attesting this feeling.

Mr. Webb was from the first interested in the Washington plan, and especially in those of its features which reflected the influence of Le Notre. His warm endorsement was shared by leading men in and out of the profession and should mean much to those who may hereafter be charged with the responsibility of deciding the fate of the plan approved by President Washington.

The voluntary withdrawal of the Pennsylvania Railroad from the Mall — an act of public spirit and appreciation of the original purposes and aims to which this great central artery was devoted by the Father of his Country — must henceforth render impossible encroachment upon a space reserved for the public use and essential to the development of one of the noblest avenues ever laid out in any country.

The relations of our profession to Congress are of the highest interest to us. Congress owes much to architects, for the nation's greatest architects built Congress a palace to live in, one of the noblest capitols of any country.

But we owe much to Congress, and the Institute must feel that this is now especially true. The 57th Congress, besides the restoration of the White House, authorized the construction of a municipal building for the District of Columbia, the Army War College, a building for the National Museum, the Engineers' School of Application, the Union Railroad Station, an office building for the use of Representatives, a Hall of Records, besides making provision for the Lincoln Memorial. Designs for nearly every one of these buildings have been intrusted to members of our profession.

Bearing in mind this great volume of work and the intimate relations that have for so many years been maintained between our profession and the central government, it should be by no means a cause of astonishment that from time to time difference of opinion should arise as to the exact form that these relations should assume. We should not feel that representatives of government, zealous in what they consider wise economies, are inimical to those principles that we regard as fundamental. Yet we must bear in mind that there are

times when right relations are to be maintained only by the greatest tact and moderation.

If, as some fear, such times are upon us now, it behooves us to meet each situation as it arises fairly, calmly and above all without heat, remembering that nothing is to be gained by mere assertion, everything by convincing proof; remembering that we have fair-minded men to deal with, but men who can look at things from our point of view only when they have been convinced that that point of view is right and for the good of all. We must approach them in a spirit of the highest consideration, prepared to yield everything except principle.

It is very desirable, at this time especially, that the Institute should not remain idle with respect to the future development of the Park System of the National Capital. The plans of the Commission, appointed by the Senate through the efforts of the Institute, have already been made familiar in the public press and by illustrated lectures in all the principal cities, and have made a strong appeal to the national pride.

Educated people everywhere have come to understand the scope of the work and to sympathize with it. Throughout the country, especially in Buffalo, in Cleveland, St. Paul and as far west as Seattle, the example has served to quicken, strengthen and inspire each city to develop and to make the most of its natural advantages. Moreover, in England the interest in this undertaking has been very great.

But it must not be forgotten that the execution of the project depends now, not upon the attitude of a sympathetic public, but solely upon the appropriations which Congress may see fit to make from time to time. Ultimate success can only be hoped for in the fuller understanding of the plan by our legislators. They must be brought to realize its fundamental importance.

This is a work which may be accomplished largely by the zeal and perseverance of this Institute through its chapters. The senator or representative who must make up his mind whether or not the needed expenditure from the public treasury is justified will be influenced less by the resolutions we may pass here than by the architects of his own city and his own state, who are known perhaps to him personally and who can explain the plan and make clear to him its merits.

A word here as to the duties of chapters. They are the organic members of the national body. In such matters as that of which I have just spoken the influence of the Institute is exercised largely through them. It is of the highest importance then that they zealously and faithfully perform the duties which belong to them.

While their coöperation in all that concerns the welfare of the Institute has, as a rule, been earnest and the Institute owes daily more to their efforts, yet there have been felt in certain quarters a lack of interest, a failure to grasp opportunities, fatal to effective work as a whole. The need of united effort cannot be too strongly emphasized.

The Institute has ample reason for felicitation in both the increase and betterment of our schools of architecture in Harvard, Columbia, Pennsylvania, Cornell and Illinois universities, as well as in the admirable and still older foundation of the Institute of Technology in Boston.

The movement to endow an American Academy of Fine Arts in Rome on the general lines of the French Academy in the Villa Medici is not new to you.

Until now dependent for support upon the insufficient means at the command of the incorporators (members of the Institute), the number of scholars has of necessity been small, and the convenience for work not such as would be afforded by an older, well-equipped and well-endowed institution. Nevertheless, in spite of its vicissitudes, such has been the quality of the work, and the few men turned out so strong, the conviction of those most deeply interested in the need for an institution offering a post-graduate course intended only for those who shall be already technically equipped, that a bill for the incorporation of the American Academy in Rome by act of Congress, and asking for the protection of the United States government, was introduced in 1901 by the late Senator McMillan.

The persons named as incorporators, besides the leading architects, painters and sculptors, include the great universities and technical schools represented by their presidents, the secretaries of state and war, the librarian of Congress, the government architect and a considerable number of men chosen from the community at large, known for their interest in art and education.

The bill passed the Senate and was favorably reported to the House, but owing to the legislative conditions prevailing in the latter body during the closing weeks of the session, it failed to become a law. I am happy to say that it will be reintroduced in the coming Fifty-eighth Congress, and is considered to have every prospect of success.

In this enterprise the Institute has a deep concern and towards its final achievement and the passage of the bill has already pledged its earnest support.

It is proposed to add to the incorporators of the bill the principal institutions and societies of art, represented by their proper committees; it would seem eminently fitting that this body should be included in, if not lead the list, and I ask your attention to this point.

Gentlemen of the Institute, I thank you for the honor you were pleased to bestow in electing me a second time your president. I shall value the remembrance of this and of my participation in the work of the Park Commission and of the restoration of the White House enterprises, so largely yours, as the most precious testimonial of the good will and kindly feeling of my professional fellows, and I shall carry with me, as long as I live, the deepest sense of your generous confidence.

Looking back over the past two busy years, I realize more and more fully how very much the welfare of the profession is bound up in the welfare of the Institute; in the work we are called upon to share, how much each member is strengthened by becoming a participator in the work for all.

As a proof of gratitude for all that I owe the Institute, I shall endeavor by every means in my power to further the principles and aims which make it deservedly the national body.

Fifth Annual Convention of the Architectural League of America, St. Louis, October 5 and 6.

REPORT.

WHEN it is recalled that the movement which culminated in the organization of the Architectural League of America had its inception in St. Louis, it seems fitting that, after an existence of four years, it should return thence to render an account of its stewardship of the powers delegated to it by the constituent clubs. If it lacked the presence of as many accredited delegates as several former conventions, it nevertheless made up in earnestness and enthusiasm what it lacked in numbers.

We are glad to see questions of style discussed and keenly analyzed in the convention of the League. The movement for the New Art appeals so strongly to every lover of intelligent, rational design that even while admitting the crudities and absurdities of some of its manifestations, it yet stands for a vigor of growth and an intensity of purpose which, so far from being ignored, demand imperatively the most careful consideration. We are also glad to see questions of ethics discussed at these conventions. They are discussed little enough anywhere else, and they have only too little influence upon the daily practice of the architect, so that it is fitting for the League to take up a certain amount of its time and energies in such topics. But the Architectural League stands for so much more than professional ethics, its scope is so far beyond the limitations of any one style, that we cannot help a feeling that such subjects are, after all, secondary, to be considered surely, but with caution and not to the exclusion of the broader questions which involve the whole subject of good architecture. It is not so much a question of what style a certain body of delegates consider most adapted to American needs, nor of what rules or regulations can best restrain the unprofessional, but it is a question of bringing architecture to the people, of showing people what architecture can be, and of throwing the strength and enthusiasm of youth into the large civic as well as private problems which are constantly arising in all our cities, but which are generally avoided by the more strictly professional bodies as being upon debatable ground. No one would for a moment claim that the American Institute of Architects has ever done all it might, could or will do. The very fact of its high professional standard precludes it from entering into some fields where the younger men can afford to rush in unchecked with the consciousness that mistakes will be more easily overlooked when accompanied by the enthusiasm of youth. It is the young men, the young men's clubs that will keep the profession alive and vigorous, and the work of the Architectural League is distinctly in the line of such methods as will kindle and arouse the greatest architectural enthusiasm among its members, by exhibitions, participation in public functions, the cultivation of a broad civic spirit and a hearty feeling of co-operation which shall entirely avoid mere abstruse questions of either ethics or style and bend everything to the effort to call out the very best in this generation.

The opening session was called to order by President Lamb and an organization effected by the election of J. P. Hynes of Toronto as speaker, and J. B. Nettleton of Detroit as secretary. Delegates were enrolled from the Architectural League of New York, the Society of Mural Painters, the Society of American Sculptors, the Civic Improvement Alliance and the Architectural Clubs of Chicago, Cleveland, Pittsburg, Washington, Toronto, Philadelphia and St. Louis.

The report of the Executive Board was presented by President Lamb, and that of the treasurer by Julius F. Harder. The reports of the various standing committees were then read.

The convention then adjourned to meet in Congress Hall at the Louisiana Purchase Exposition. An address of welcome was made by Mayor Wells, followed by President Francis of the Exposition Company, and Director of Works Isaac S. Taylor. President Lamb responded upon behalf of the League.

After luncheon, as guests of the Exposition Company, a tour of the grounds followed and an inspection made of the various exhibit buildings completed and in course of construction.

At Tuesday's session the affiliation with the Civic Alliance was unanimously ratified. The report of the Committee on Professional Ethics and Competition Code was read by Chairman Harder and discussed by the delegates.

The method of carrying on the Current Exhibition for the coming year was discussed, and the report of the Committee upon Current Work was read by the chairman, Charles O. Pfeile of St. Louis.

A committee was appointed to present names for the office of president. The balloting resulted in the election of William B. Ittner of St. Louis to serve until the holding of the next convention at Pittsburg in May, 1904.

On Monday evening a public meeting was held at the Museum of Fine Arts, and an address of welcome delivered by Professor Halsey C. Ives. A discussion of "The New Thought in Design" was participated in by Frederick S. Lamb of New York, who spoke of "The Influence of the Movement upon Ornamentation." "L'Art Nouveau and American Architecture" was brilliantly treated by Claude Fayette Bragdon of Rochester. In the absence of H. B. Herts of New York, Hugh M. G. Garden discussed in an able manner "The Influence of the New Thought in Design."

The papers by Mr. Lamb and Mr. Garden were very favorably received and contained matter for a great deal of profitable thought. We publish elsewhere in this issue the paper of Mr. Bragdon, which presents in a very complete manner the essence of the thought expressed in a slightly different vein by the other papers and covering the whole ground in a very efficient manner. Only our lack of space prohibits the publishing of the other papers.

On Tuesday evening a symposium was given by the St. Louis Architectural Club to the visiting delegates. Mr. Harder of New York served as toastmaster, and addresses were made by Mr. Lamb, C. Y. Turner and H. K. Bush-Brown of New York, J. P. Hynes of Toronto, William S. Eames and Hon. F. W. Lehman of St. Louis. A portfolio of blue prints of architectural songs composed

and illustrated by Oscar Enders, poet laureate of the St. Louis Club, was presented to the guests, — a fitting memento of an evening that will linger long in the memory of those present.

In the election of Mr. Ittner the League has chosen a worthy successor to Mr. Lamb. A founder of the League, he brings to the position a broad sympathy with the aims of the organization which, joined to executive ability of a high order, should do much to enlarge the scope and promote the usefulness of the Architectural League of America.

L'Art Nouveau and American Architecture.*

BY CLAUDE FAYETTE BRAGDON.

EVERY man may be said to have either a Latin or a Gothic mind. That is to say, either he loves law, order, precedent; and finds delight in simplicity, symmetry, artificiality, and everything implied by the word "classical," or else he is all for freedom of individual expression, for following the logic of the moment and not a predetermined formula; finding pleasure in complexity and variety in naturalism and picturesqueness.

Because architecture, the work of man's hands, is the pattern of his mind in space, it necessarily partakes of the nature of one or the other of these divergent types; it is either Latin or Gothic, sometimes one being in the ascendant and sometimes the other.

When the Renaissance spread through Italy into northern Europe the Gothic ideal was displaced by the Latin ideal, and this has held practically undisputed sway throughout the western world until the present time. The movement known by the name of L'Art Nouveau is significant because it marks, perhaps, the beginning of the opposite swing of the pendulum, since it is the first organized and popular effort toward the re-establishment, not of the outworn forms of Gothic architecture, as in the case of the abortive Gothic revival in England, but of the basic principles of Gothic art, namely: expressiveness, inventiveness, freedom and individuality. It has spread like a fire — its enemies would declare like a pestilence — throughout France, Germany and Belgium; it has invaded Italy; a chastened and finer manifestation of it is to be found in England; but except as an influence it has not yet crossed to this side of the Atlantic.

In the field of the minor arts — in furniture, jewelry, textiles, glass and metal work — L'Art Nouveau may be said to have justified itself; but in architecture so much cannot be admitted, and this is because that very liberty which emancipates and renews the other arts becomes, in architecture, sheer license. Necessarily the most conservative of the arts, architecture at its best is always a growth, an evolution, — an accretion, not a creation; and one feels about the buildings designed in the style of L'Art Nouveau not only that they are creations, but that they are the creations of an undisciplined and riotous imagination. They are free, certainly, but they provoke us to the exclamation, "O Liberty, what sins are committed in thy name!" The new manifestation has been wittily called "Loop the Loop architecture." It reminds one of nothing so much as the last convulsions of a dying angleworm. The forms are excessive, the lines are tortuous, and the whole effect is one of restlessness and strain, relieved sometimes, it is true, by excellence of color, of texture, and by episodes of well wrought and originally conceived ornament.

Even at its worst there is much in this new style of architecture to commend itself, if not to our admiration, then to our attention. Illogical and false it may be; but, when all is said, is it not better in principle than the style which it displaces, the latest survival of classical tradition — that Roman toga which fits us ill, the folds of which we are perpetually readjusting, but which we continue to wear and to think becoming? I said just now that architecture is a conservative art, that it should respect tradition and follow precedent; but the modern world, its aims, its needs, its methods, are these not, in a sense, unprecedented? Architecture obeys a higher law and admits a sterner necessity when, ceasing to perpetuate traditional forms, tried by use and consecrated by beauty, it attempts only to be truthful and to show, ugly or beautiful, the living face of the Zeit-geist. This is the ideal of L'Art Nouveau, whatever its failure of achievement; and it is not too much to hope that out of its fantastic hurly-burly may be developed the first words of a new architectural language, more adequate for the expression of our civilization than that afforded by those inherited forms which, for lack of better, we continue to employ.

Although as yet we possess so little of the imported article, we have L'Art Nouveau architecture which is all our own, not less radical and original than its foreign prototype, antedating it in point of time and much more deserving of commendation. I refer to the work of that distinguished architect and man of genius, Mr. Louis Sullivan of Chicago. I even hazard the theory that the influence of his work has been no inconsiderable factor in the birth of the new movement abroad. Ideas, like thistle down, travel far on favoring winds and take root in unexpected places. When it is remembered that Mr. Sullivan's buildings in Chicago and at the Columbian Exposition aroused the interest of the French commissioners of the Museum of Decorative Art to such an extent that they secured drawings, photographs and casts of his ornament for their museum in Paris, and that duplicates of these were obtained by many other similar institutions throughout Europe, it is not unreasonable to suppose that these examples exercised a potent influence upon the men in whose minds L'Art Nouveau was germinating.

Mr. Sullivan possesses in an eminent degree what I have called the Gothic mind. He is strongly individual, a lover and a student of nature and at once a logician and a mystic. The Prudential building in Buffalo, which is perhaps his masterpiece, is entirely Gothic in spirit. Although it suggests the style in nothing except the soaring lines of its piers and the profuse and intricate ornamentation of its terra-cotta casing, one feels that the spirit of the great cathedral builders dwelt in the man who made it. Necessity determined its form and fenestration, and beauty has been achieved at the cost of no

* Paper read before the Fifth Annual Convention of the Architectural League of America.

compromise with this necessity. The exterior expresses the plan, and the ornament is of a kind well adapted to the plastic nature of the fire-resisting material which clothes like flesh its iron skeleton.

I need not dwell, in addressing this assembly, upon the influence of Mr. Sullivan upon the younger members of the profession. This Architectural League of America is in a sense a living witness of it. While not all of its members accept his convention, regarding it as something personal to the man, not suitable for imitation, all, I am sure, are in sympathy with his aims and subscribe to his formula, "Form Follows Function." Like every artist of force and originality, he has many imitators who copy his mannerisms, and a few true disciples who have assimilated his ideas and work in their own way according to his methods. This little group, animated by the Gothic spirit, stands practically alone in the attempt to stem the rising tide of Latinism which floods the East and flows westward, for by far the greater part of the work and the best work now being done in this country is upon classic or neo-classic lines. The starved eye turns with relief from the crudities and eccentricities of certain dingy Chicago streets, wherein Mr. Sullivan's influence is rampant, to the ordered and sumptuous façades which glitter in the sharp sunlight of Fifth Avenue; but the mind, unseduced by superficial beauty, denies the eye its pleasure in them. After this masquerade, what possibly can follow? No answer is forthcoming. Like artificial flowers, these buildings seem animated by no vital principle of growth. Chicago's commercial architecture, on the other hand, is like an ugly plant, which, having its roots deep in the native soil, may grow and put forth some day some rare blossom.

For the exponent of the Latin ideal in architecture the way is pleasant and the rewards immediate and sometimes great; but the man who, by conviction or by the constitution of his mind, enlists among those devoted to the Gothic ideal, dedicates himself to a certain measure of failure. It is not for him to assimilate the popular taste and reproduce it; he is self-condemned to labor at the foundations of a palace of art whose superstructure will be reared, if it be reared at all, by other and more skillful hands. But when time shall have precipitated the muddy elements of our modern life, I predict that he, and not the other, will be adjudged to have chosen the better part. Beneath the dense materiality of our civilization there is fermenting a leaven of spirituality which may usher in a period of faith like that which Europe underwent in the Middle Ages, when Gothic architecture had its origin; a period in which the soul comes near the surface of life, sweeping away existing conventions and creating for its expression a new symbolism and a new art. In such a movement the men who have all along followed the Gothic method of constantly inventing, and not merely reproducing, will have the least to unlearn and the most to contribute.

The architecture of a nation is the mirror of the national consciousness. It cannot lie. If it seems to do so it is only the better to betray the falsity of the social condition under which it had its origin. The iron hand of Roman sovereignty, encased in the silken glove of Roman luxury, found its prototype in buildings which were stupendous, crude, brute masses of brick and concrete, encased in a covering of rich marbles and mosaics. The "sad sincerity" of soul, the mysticism and fanaticism of the monkish Middle Ages found embodiment in the Gothic cathedral. The newest street façades of modern Paris publish French cleverness as publicly as the pages of *Gil Blas*, and betray French degeneracy as pitilessly as reports on alcoholism and vital statistics.

The tall office building, America's most characteristic architectural product, is in like manner a symbol of our state. Its steel framework, strong, yet economical of metal, held together at all points by thousands of little rivets, finds a parallel in our highly developed industrial and economic system, maintained by the labor of thousands of commonplace individuals, each one a rivet in the social structure; and just as this steel framework is encased in a shell of masonry, bedecked with the architectural forms of alien civilizations, meaninglessly employed, so are we still encumbered with a mass of inherited religious, political and social ideas, which impede our free development and interfere with the frank expression of our national character. When we discard these old ideas for newer and better ones our architecture will mirror the fact by sloughing off its ancient encumbrance likewise. This may seem a far-fetched conclusion, but history shows that architecture, though the least plastic and animate of the arts, images at all times a nation's character, changing as that changes.

The public temper and the public taste are responsible, therefore, to a large extent, for the quality of the national architecture, but this does not at all abate the architect's responsibility; it is for him to educate the public taste by building better and more beautifully than is demanded of him. The difficulty consists in the fact that he, too, is afflicted with the modern disability of over-sophistication. He knows too much and sees and feels too little; the free action of his mind is impeded by a mass of archæological knowledge, and this finds its way into his work to its detriment. He is too truly characterized by the little girl's definition: "An architect is a man who puts architecture into houses. Greek and Roman is the best."

To this sort of thing L'Art Nouveau comes as a wholesome corrective. It calls upon him to throw away his classical crutches and learn to walk with his own strength. Some — the radicals, the reactionaries, the "Gothic minded" — will answer to this call of the New Art. The question then arises, to what sources shall such turn for inspiration, how shall they train themselves in proportion and design, having abjured historic ornament, and having ceased to employ the classical formulæ?

This question I attempted to answer at some length before this Convention two years ago in Philadelphia, and I can only reiterate, in brief, what I said then, that the architect should study nature, the human figure, geometry and music, because in all these he is still studying architecture, — the architects of the world and of the soul.

By the study of nature I do not mean that he should go into the fields with a book and botanize, nor make sloppy water colors of picturesque scenery. These things are well enough, but not as profitable for his purpose as observation directed towards the discovery of those

simple yet subtle and occult laws which determine form and structure, such as the tracing of the spiral line, not alone where it is obvious, as in the snail's shell and the ram's horn, but where it appears obscurely, as in the disposition of leaves or twigs upon a parent stem. He should make sketches as an aid to observation, rather than with any ulterior object of adorning a wall or enriching a portfolio. There is more and better architectural instruction contained in a tree than in the dome of the Pantheon. A tree is everything a perfect building should be, for it is well and firmly planted in the ground, strong and simple at the base, becoming by imperceptible transitions delicate and various in its outline against the sky. Its foliage conceals yet reveals the structure, and its mass, considered with relation to a central axis, has perfect balance without the repetition inseparable from perfect symmetry.

In studying the human figure it is not necessary to make elaborate and carefully shaded drawings from a posed model. An equal number of hours spent in copying and analyzing the plates of a good art anatomy will be found a more profitable exercise for an architect, because it will make him familiar with the principal and subsidiary proportions of the bodily temple and give him sufficient knowledge to be able to indicate the figure in any position with fair accuracy.

As for geometry, he should play with squares, circles and triangles as a child plays with its letter blocks, arranging and rearranging them, making them into patterns as the Japanese do, and as did the Greeks. He should learn also to discern the few and simple geometrical elements at the basis of the most intricate designs.

By the study of music I do not mean the mastery of any musical instrument. I mean that an architect should hear as much good music as he can, and should learn the rudiments of harmony, that he may know the simple numerical ratios which express the principal consonant intervals; then, if he play a little, he can translate this knowledge into pleasure.

All these exercises will be found to be excellent training for the architect, but there are certain deficiencies which they will by no means supply; the lack, I mean, of the broad view, the deeper insight, a mind alive to the sublimity and significance of the spectacle presented by our laboring cities, a faith equal to believing that their squalor and ugliness only await the alchemy of art to be converted into new and extraordinary beauty. He must have these things before the power will be his to perform the transmutation.

Just as the electric lights in our city streets put out the stars, so the exclusive cultivation of the mind blinds us to that dimmer, because more distant radiance which is the soul, the source of wonder, mystery and beauty. The arts to-day prate drearily of facts. Music alone still has power to lift us above ourselves, but architecture had that power once and might conceivably again. To render architecture potent in this wise, to make of it a living and a beautiful thing and not a resuscitated corpse, this is the task to which we architects should dedicate ourselves. This, too, has been the aim of the organizers and exponents of L'Art Nouveau. They offer us an inspiring example, not of accomplishment, perhaps, but of endeavor.

Recent School Building in St. Louis. I.

WILLIAM B. ITTNER, ARCHITECT.

BY S. L. SHERER.

ONE of the most hopeful signs of the time has been the activity that has characterized the building of institutions devoted to educational purposes. Nowhere has this activity been more manifest than in St. Louis, where the splendid group of buildings for Washington University is rising on the western heights that overlook the city; and which has also witnessed the construction of sixteen new and eighteen additions to old school buildings during the past five years. Consideration of the more recent of these buildings in their relation to architecture is the purpose of these notes.

MAIN ENTRANCE, EDWARD WYMAN SCHOOL.

In common with other cities, St. Louis was until recently content with school buildings that were ill adapted to the purpose, judged by the requirements of the most advanced educators of the day. Except in several instances, the earlier schools had little thought bestowed upon the architectural character of the building, the value of such treatment from an educational point of view being entirely ignored. With the organization of a non-partisan Board of Education, elected at large, and composed of men of character and educational attainments, and the appointment of an architect of ability whose entire time is devoted to the work, has come the notable change in the character of the public school buildings of St. Louis.

Unlike most foreign and some American cities, the St. Louis Board of Education has not formulated a code of rules governing the planning and construction of school buildings other than a strict compliance with the building laws of the city, which provide that buildings of this class shall be fireproof.

Commissioner Ittner has endeavored to develop a plan in line with the best and most recent development in

EDWARD WYMAN SCHOOL. (For plan see plate form.)

EUGENE FIELD SCHOOL.

school architecture; one that would insure improved hygienic conditions and consequently preserve the health and morals as well as promote the intellectual progress of the pupils, and at the same time invest the buildings with that measure of architectural fitness now recognized as essential in training the minds of the pupils to the perception of the beautiful during the most receptive period of life.

Before passing to the consideration of individual buildings, it may be well to briefly summarize the general requirements that have influenced the plan, design and construction of the schools, which are all of the grammar grade.

The adoption of the almost universal rule advanced by experienced educators, that a classroom should accommodate not more than fifty-six pupils (the tendency being to reduce the number, as with fewer pupils the teacher's energies are less quickly exhausted, — therefore insuring more rapid promotions), forms the keynote to and has largely governed the planning. As authorities agree that each pupil in the grammar grade requires a space of sixteen square feet and two hundred cubic feet of air space, it follows that a room approximating 25 feet wide x 32 feet long x 13 feet 6 inches high will give the required accommodation, admit of adequate lighting and enable the teacher to control by eye, and voice, the pupils. With such a room as a unit it follows that the architect should so dispose the rooms to receive proper light in sufficient quantity and render them easily accessible from stairways and corridors wide enough to permit rapid circulation of classes.

Another consideration that has influenced the plan was the endeavor to depart, not only from the conventional type of school building, wherein the central corridor, lined with rooms on each side, was necessarily dark, but to introduce, if possible, outside light into the main corridor on practically its entire length, thus insuring the penetration of sunlight to all parts of the building during some part of the day. This naturally led to a plan grouping the classrooms on three sides of the corridor only, the remaining side being opened its whole length to the light.

Since the success of the building depends upon adequate light, of the proper quality, it naturally follows that the width, height and location of the windows dominate the exterior design. In no case is the window surface less than one-fourth of the floor area.

As it is conceded that the maximum, if not all, of the light should come from the left of the pupil, and preferably from one side only, in order to avoid cross lights, windows set 3 feet 6 inches above the floor and extending within 6 inches of the ceiling, are located to diffuse such light. This fenestration is possible except in corner rooms, which are usually lighted from two sides, partly because of amount of light required to properly light the room, and in order that the design should receive fitting architectual treatment; it being manifestly impossible to locate desks in all rooms so pupils will receive light from the left only, without enclosing the façade side of the room with a blank wall, something few architects deem essential.

The general plan developed by these rigid requirements is, necessarily, more or less similar in all of the schools, approximating in form to the letter E, except where kindergarten rooms are incorporated in the plan. In all cases the sites have been wisely selected to permit ample space surrounding the building, thus affording generous playgrounds as well as good light and air.

The basements average 13 feet in height (or a clear height of 10 feet under heating ducts) and have been planned with the view of supplying separate playrooms for boys and girls, accessible from outdoors, as well as affording space for the installation of the heating and ventilating plant, the storage of coal, and the toilet rooms. On floors above basement, corridors 17 to 20 feet wide afford direct communication to classrooms averaging 25 by 32 feet in size, with ceiling 13 feet 6 inches in height. Wardrobes lead from classrooms only, a radical departure from the usual custom of opening them upon the corridor as well as the room side, — an arrangement that not only gives the teacher full control over the wardrobe, but permits ventilation of the room through the wardrobe; the constant air passage carrying with it the vitiated air from the room as well as odors arising from damp clothing in the wardrobe, thus eliminating the disagreeable odor usually prevalent in schools.

Staircases are located at each end of corridor, and also on the open side of corridor, which permits rapid egress in case of fire. In no case has the height of the buildings exceeded three stories; the tendency in the later buildings being two stories, with a high basement entirely above grade.

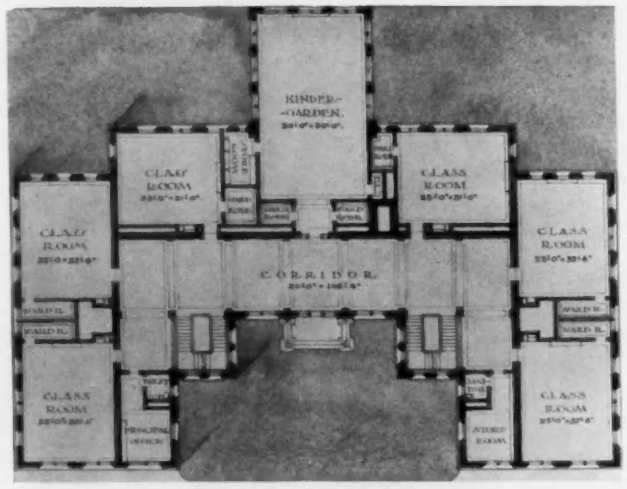
Heating and Ventilation. The buildings have been planned for the low pressure steam plenum system of heating and ventilation, a method that insures — regardless of the state of the weather without or the humidity of the air within — a positive flow of pure, warm air, at a uniform temperature, into each room, and a consequent outflow of a like quantity of vitiated air through the wardrobe vents. The system has been designed on the basis of supplying each pupil with 30 cubic feet of air per minute, — an amount exceeded by 20 to 30 per cent under actual conditions. This delivers to each room 1,800 cubic feet of air per minute, and changes the entire volume of air in the room every seven minutes, thus insuring the health and comfort of pupils and rendering them capable of study and instruction. This is accomplished with a steam pressure of from 5 to 15 pounds upon the boiler. The system is arranged so the building can be warmed in mild weather by the exhaust steam from the engine that drives the fan (experience proves this is possible in our climate for one-third of the firing season), thus effecting a material reduction in the consumption of coal.

Fresh air is drawn into the fans in the basement, usually from an elevation of about 30 feet above grade, through the tempering coils, where the temperature of the air is raised to about 60 degrees; it then passes through the fan to the heating coils, where its temperature can be raised to any required degree; then impelled through ducts from the hot chamber to the various rooms and corridors. The heating and tempering coils are arranged with a system of by-passes, so that the air heated may be taken from the hot chamber and mixed with the cooler air passing beneath the heating coils and tempered to any desired degree. The system is, therefore, very flexible and capable of many combinations at the will of the operator.

The heated air is introduced into the rooms about eight feet above the floor, the heat inlets being placed at or near the same end of the room as the outlet. The air is thus compelled to make a complete circuit of the room before passing out of the room through the wardrobe vent.

During the summer months a system of cooling the air by forcing it through a water spray or cooling chamber can be adopted and the rooms rendered cool from the constant flow of cold air. In order to heat the building rapidly in the morning the systems have been arranged to by-pass at the fresh-air inlet, the fan drawing the air from the rooms, thus converting it into what might be termed a direct system for a sufficient length of time to thoroughly heat the building before fresh-air inlets are opened and the breathing process of the building begun. All toilet rooms are separately ventilated to a stack that is kept heated at all times.

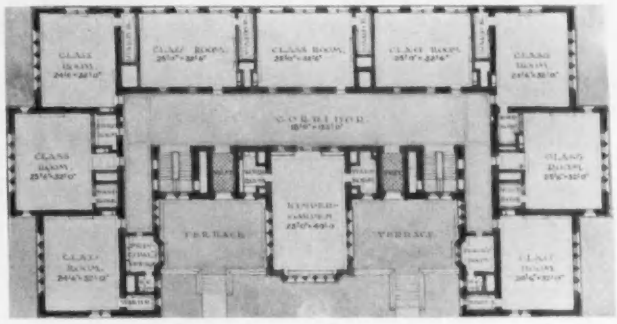
Construction. All outer bearing walls are of hard brick laid in Portland cement mortar; interior partition



FIRST FLOOR PLAN, EUGENE FIELD SCHOOL.

walls are formed of hollow tile and plastered with cement plaster. The interior framing is of steel girders and floor beams, the spans varying from 10 feet 6 inches to 15 feet. Floors are constructed of a system of concrete and metal or of tile, capable of sustaining a load of four hundred pounds per square foot, exclusive of the weight of construction. All stairways are of iron, 5 feet wide, the boxes of treads filled with concrete and covered with asphaltum, rendering them noiseless and non-slipping. The roofs are covered with slate or red shingle tile, cemented and nailed to concrete or sheathing; gutters are lined with vitreous tile bedded in asphaltum, copper being used only for the down spouts. Corridors are paved with granitic mosaic with 6-inch border and base of marble. Basement floors are granitoided, with an asphalt finish in toilet rooms. Classrooms are floored with maple laid on strips over concrete filling. The plumbing is of the most approved sanitary type and is installed, like the balance of the work, under a system of rigid inspection. Such woodwork as is used is of quartered oak and simple in design. All doors open into corridors, are leather covered and equipped with floor hinges.

Equipment. Classrooms are equipped with slate blackboards set 1 foot 9 inches above floor for lower and 2 feet 6 inches for higher grades, and extending around all walls. The desks are of the single adjustable type, with aisles 18 inches wide between desks. A bookcase,

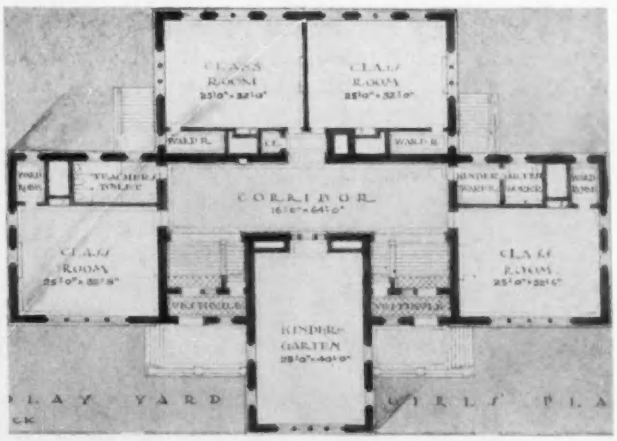


FIRST FLOOR PLAN, RALPH WALDO EMERSON SCHOOL.

shelf and wardrobe are provided for teacher, and cases are placed in the library, kindergarten and storerooms. Drinking fountains are installed in corridors as well as in yards. The walls are painted in light colors, with a stenciled frieze, and a picture molding is placed at the ceiling line. The corridors are also treated in the same manner and serve for exhibition of photographs loaned by the Patrons Association. Kindergartens are decorated with mural paintings typifying the life of childhood.

Each room has a self-winding electrical clock, regulated from principal's office. Artificial light is furnished by gas and electricity.

Cost. The average cost of fireproof rooms, including outwork (paving, fencing, etc.), has been $4,487, plus $533 for heating, a total of $5,020 per room. Comparing these figures with cost of schools during the preceding five years shows the fireproof buildings have cost $175



FIRST FLOOR PLAN, HORACE MANN SCHOOL.

less per room than former buildings not fireproof. The average cost per cubic foot has been twelve cents; this has increased to fourteen and fifteen cents, due to the advance in price of building materials and labor.

Architectural Design. From the illustrations it will be seen that, with the exception of the Field School, the Tudor Gothic has afforded the architect a model for the style employed, although there has been no slavish ad-

herence to the style, which has been made subservient to the logical development of the scheme as a whole, something the flexibility of the style permits. So characteristic a feature of the Tudor style as transom bars has been omitted, because of possible interference with light-

DOORWAY, HORACE MANN SCHOOL.

ing, — an omission detrimental to the design, if viewed from the standpoint of style alone. Where windows are wide and high and undivided by mullions and transom bars, a good design in this style is difficult of attainment. Economy in planning necessitates a balanced disposition of rooms, which also militates against any but a formal treatment. Since the fenestration is fixed, the designer is therefore compelled to rely upon mass and proportion and in the manipulation of the material for the architectonic treatment of his building. The brickwork in Mr. Ittner's schools has been well studied and made to play no unimportant part in accentuating the architectural character, and to this important feature much of their interest is due.

While the style mentioned seems peculiarly appropriate for the purpose, because of its long and traditional use for collegiate buildings, the closer the adherence to forms that go to the making of a style, the less individual the architect's work. Mr. Ittner, however, has invested his work with an individuality that is pleasing and a distinction that promises to be enduring.

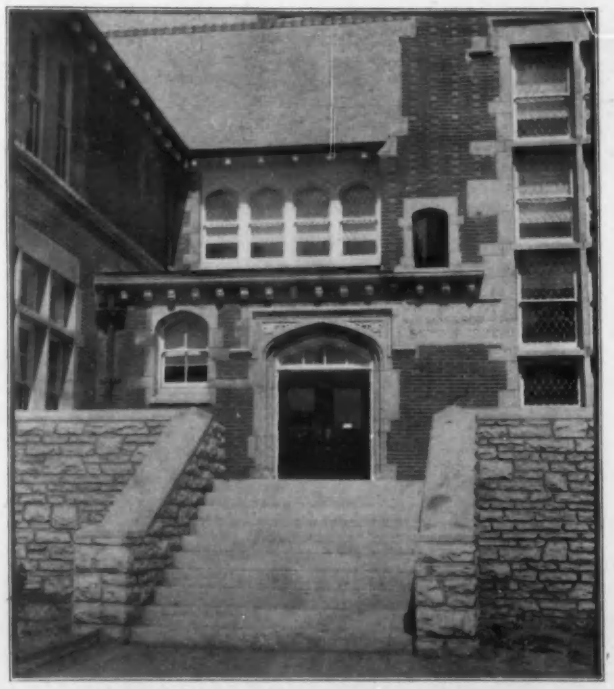
Eugene Field School. The earliest of the schools, wherein a marked departure was made from the design of previous buildings, was the school named in honor of the poet of childhood, Eugene Field, a native of St. Louis.

The design does not classify itself under any of the conventional styles, although it owes more to Spanish influence than to any other. This feeling is more apparent in the attic story and overhang of the cornice, in the low gables and red tile of the roof, and in the towers, which connote well with the design of the building in general character as well as in detail. One naturally looks for a central entrance, but this feature has been omitted and entry is made through the basement openings, distinguished by label inscriptions, to vestibules, which in turn open into a stair hall, and from which stairways in the towers ascend to upper floors.

The basement contains separate playrooms for each sex, 76 feet by 25 feet in size, accessible through side entrances; space for boiler, coal and fan room. The first floor has six classrooms 25 feet by 32 feet in size, with a small office for principal, and a kindergarten 30 feet wide by 50 feet long. Second and third floors have same disposition of rooms, except the space over kindergarten is utilized for an additional classroom. Adjoining every room is a wardrobe having outside light and ventilation and accessible from classroom only. The corridors are 20 feet wide by 106 feet long, thus affording ample space for rapid egress in case of fire.

Exterior walls are of a reddish speckled brick laid in Flemish bond, with joints of white mortar, flashed brick being introduced at random. The gables and towers are laid in a diapered pattern that adds interest as well as variety to the wall surfaces. Cream white terra-cotta has been used for the trimmings, a color that harmonizes well with the brickwork.

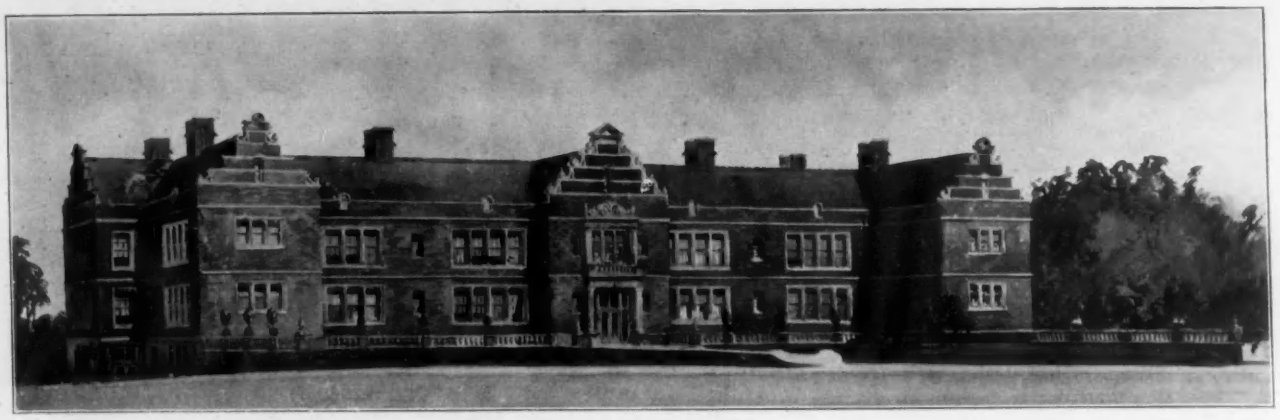
The design exhibits a logical development of the plan, clearly expressed in a direct manner. It owes little to precedent, and withal is a well-managed composition, in-



ENTRANCE, RALPH WALDO EMERSON SCHOOL.

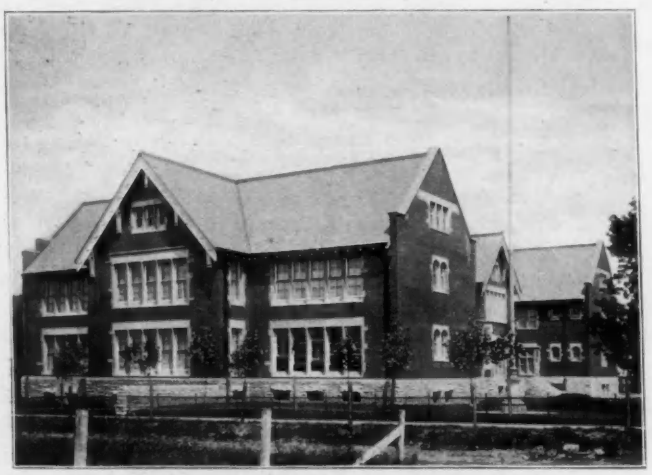
vested with a quality of fine distinction. The cost per room was $5,600; per cubic foot, 15¾ cents; total cost of building, $123,241.

Edward Wyman School. The Wyman was the first school wherein Mr. Ittner reverted to the Tudor Gothic



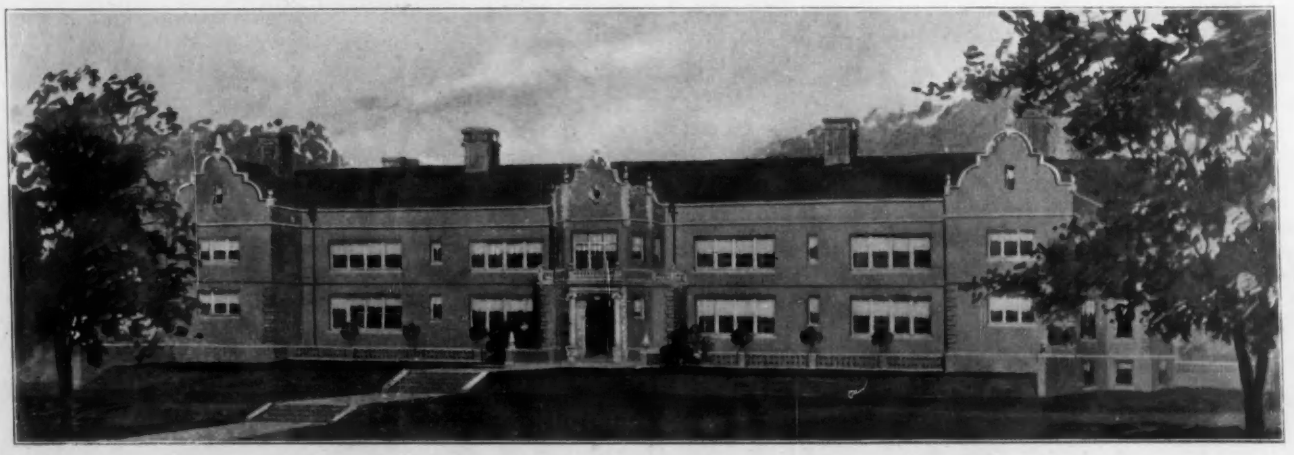
HENRY T. BLOW SCHOOL.

(Plans practically same as Wyman School.)



RALPH WALDO EMERSON SCHOOL.

HORACE MANN SCHOOL.



COTE BRILLIANTE SCHOOL.

(Plans practically same as Wyman School.)

style for a model. It has not been servilely followed, however, but has been used in a free and individual manner. However admirable the forms that fitted conditions of a bygone age, they have not been used where they were not well adapted to the requirements of the problem. The design gains immeasurably by the grouping of the windows, which are of sufficient area to effectually light the rooms, but this characteristic feature of the style has not been well sustained by such other characteristic features as stone mullions, molded jambs and label moldings, — an omission necessitated by the limitation of cost, while transom bars are usually considered detrimental to effective lighting.

The plan shows a building 240 feet in length, with projecting wings and a central entrance accentuated by towers that are reminiscent of an age when such a feature was one of defense, but in this instance serve the very useful purpose of ventilating shafts. The side entrances and accessory terrace features are especially interesting in design, and open into the playrooms in basement. The building is but two stories in height and is crowned by a roof of red tile, whose long and unbroken sweep imparts a dominant note to the design.

The floor plans illustrated show twenty classrooms with a large kindergarten and a lecture room over same; a library and principal's office conveniently located on the axis of the second story corridor. This general plan, modified by the conditions arising from variation of site and size of lot, has been adopted for subsequent buildings. It seems admirably adapted to the requirements, while the limitation of height to two stories is an improvement over earlier three-story buildings that readily commends itself.

The brickwork is of the same color and texture as the Field School, but the walls above the stringcourse of stone have been enlivened by a diapered pattern composed of varying shades of red and gray brick. The balcony and mullioned window over the main entrance are interesting for the skillful manner in which they have been worked out in brick.

The cost per room was $5,600; per cubic foot, 14 cents; total cost of building, $128,888.

Ralph Waldo Emerson School. In the Emerson School, Mr. Ittner has attained a more picturesque result than in the preceding school, and one that suggests more clearly the feeling of English work of the Tudor period; tempering the style, however, by his own point of view. It is distinctly more successful than the earlier designs, and proves that a restrained picturesqueness adds to, and is not incompatible with, a successful building from a utilitarian standpoint. It also appeals more strongly to the pupil, and is therefore valuable in inspiring that liking for one's environment which counts for much in school life.

A variation from the preceding plan results from the addition of a central wing, making the plan form the letter E. The same arrangement of stairways that obtains in the Field School is also present in the Emerson, the towers occupying the same relative position on plan. The entrances, however, as shown by the charming illustration of the fore court, are more distinctive and have been located and treated in a more logical manner, and the general result is somewhat more pleasing. The small groups of windows in the wings are designed with the view of lending architectural effect, rather than for the purpose of light; that vital feature being derived from the larger groups of mullioned windows on the side elevations.

The superstructure rests on a stone underpinning of singular charm, laid up in white limestone of long, thin courses, with wide joints of unusual depth. The walls are of red brick laid in English garden wall bond, with flashed headers; the openings being accentuated by jambs and trimmings of buff Bedford stone. A pitched roof covered with black slate, with ridges of red terra-cotta, crowns the building, which contains twenty-two rooms.

The cost per room was $5,636; per cubic foot, 14¾ cents; cost of completed building, $123,992.

Horace Mann School. The Mann School is on a much smaller scale than the schools heretofore mentioned, containing but nine 25 feet by 32 feet classrooms and a kindergarten room 25 feet by 40 feet in size. The plan illustrated explains itself, and the exterior design faithfully expresses the plan. It follows the same general style that characterizes the Wyman School, and is not without interest for its simple, though well-considered design.

As will be seen from the detail of the entrance doorway, the brickwork is also of the same texture and character as the Field and Wyman schools.

The cost per room was $6,007; per cubic foot, 14 9-10 cents; total cost of building, $60,070.

Cote Brilliante School. This school is also Tudor Gothic in general feeling, quiet and refined to a marked degree, and recalls the aspect of English collegiate buildings. Like the preceding schools, it is but two stories in height, — an element in design most effective in giving a desirable long and low line, which, in this instance, is terminated by the end wings and broken by the well-designed central entrance. The grouping of the windows is also effective in imparting character to the building, which is in course of erection, and gives promise of being one of the most successful designs that has come from Mr. Ittner's hand.

It will contain a high and well-lighted basement, twenty-two classrooms, a kindergarten, a principal's office, storerooms, etc.

The brickwork will be light red in color, laid with wide joints of white mortar. The roof will be covered with red shingle tile.

The cost per room will be $6,758; per cubic foot, 17 cents; total cost of building, $162,213, which includes wrecking and removal of the old school buildings and an unusual amount of grading and yard work.

Henry T. Blow School. The plan of this school follows the same lines developed in the Cote Brilliante School, and the exterior design also suggests and conforms in a measure to the design of the same school, differentiated, however, by the Dutch treatment of the gables that crown the end wings, and in the design of the main entrance.

Like its prototype, it reveals its purpose in a clear manner, and is likewise notable for its dignified and well-managed design. It will contain 22 rooms.

The cost per room will be $6,243; per cubic foot, 16 cents; total cost of building, $149,840, which also includes wrecking and removing old school buildings and an extraordinary amount of grading and yard work.

Architectural and Building Practice in Great Britain.

BY R. RANDAL PHILLIPS.

IN attempting periodically to set before my readers some account of what is happening in the architectural and building circles of Great Britain I need to write rather as an American than an Englishman in order that some

PUBLIC LIBRARY AT KINGSTON-ON-THAMES.
Alfred Cox, Architect.

link of general interest may be established. In doing this there are two courses open to me,— to give a chronicle of bare facts or to generalize ; and with this option there are two corresponding disadvantages, for bare facts can be only partially understood by those who are out of touch with the circumstances, while generalizations are apt to become unintelligible, to degenerate into mere by-plays of words which leave the reader no wiser than before. My best path has seemed to lay between these two extremes.

Such considerations as the foregoing are eminently applicable to an exhibition like the Royal Academy. When my last letter was published in THE BRICKBUILDER that exhibition had not opened, and now it has closed. We may be always certain that it will be heralded by a chorus of dyspeptic criticism,— unfortunately art rather fosters a bad digestion and a bitter tongue,—and the occasion was not missed this year. The ordinary critics leave architecture alone, because they know nothing about it, and the general public is not interested in it; which is perhaps the reason why the architectural room at the Academy is such a favorite place for confidential meetings which have no concern with architecture, and why it is such a haven of rest from the other crowded rooms. The exhibits were much the same as those which have been hung on the walls for the past decade, comprising a number of designs for public buildings,— such as Mr. Aston Webb's additions to South Kensington Museum,— more than the usual proportion of ecclesiastical designs (by reason of Liverpool Cathedral), and domestic work. It is impossible to gauge from one exhibition whether any advance has been made or not, but certainly so far as the domestic work is concerned there was cause for congratulation. Practically half of the two hundred and fifty exhibits were of town and country houses. Even among the most trivial of these, done by quite unknown men, was seen a soberness which comes very acceptably after the rinsings of the Gothic Revival, while the large mansions, where abundance of money might lead to undisciplined extravagance, exhibited a dignified character and admirable arrangement; such, for example, as the additions to Cornbury Park, Oxfordshire, by Mr. John Belcher, or to Hatchlands, Guilford, by Mr. Reginald Blomfield. Architects are following more and more in the essentially English manner of house design, such as I have illustrated in these pages; and for my part I can conceive of no more pleasing results.

While speaking of the Academy it will doubtless be of interest to American students to refer to the new regulations for admission to its schools which will come into force next January. There is no restriction as to age, but no student can compete for scholarships, prizes or medals

PUBLIC LIBRARY, KINGSTON-ON-THAMES.
Alfred Cox, Architect.

who is more than twenty-eight years of age (formerly the limit was fixed at twenty-five). The architectural works required for admission are now a plan and elevation of a building, or part of a building, to be done from the candidate's own notes and measurements, not a geometrical elevation which might be taken from published drawings or prints, as hitherto; elevations of the orders, an original perspective, and a drawing of architectural ornament from the cast (all these as before). Instead, however, of the perspective and the drawing from the cast, a portfolio of not fewer than six original sketches of architecture may be submitted, one being an original design and at least two others shaded studies of architectural sculptured ornament. Then there is a change in regard to the works required from probationers on their admission, for,

MAURICE HOTEL, HOXTON.
Paul Waterhouse, Architect.

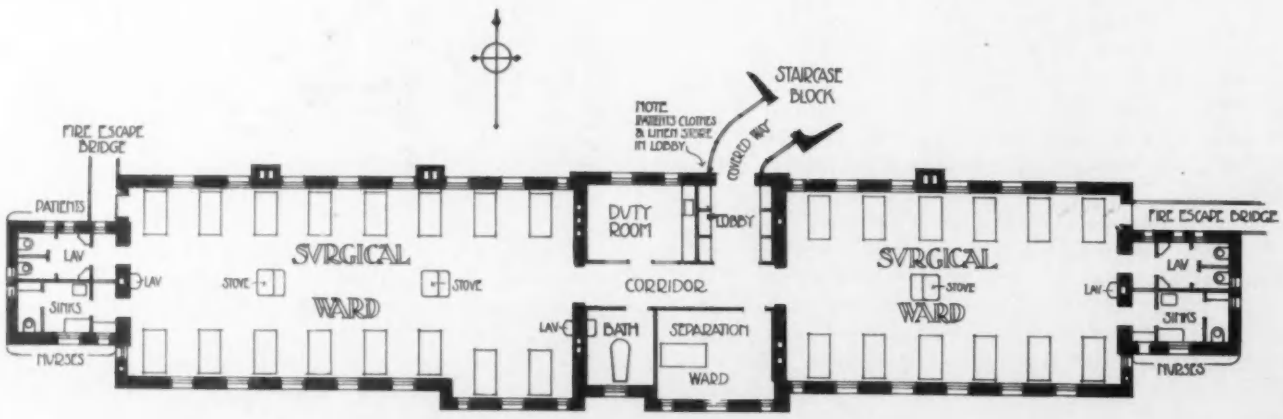
instead of a geometric elevation (with or without a plan) of a building in London, an elevation and plan are required, which may be of any building or part of a building, not necessarily in London, or of one of the larger architectural works in any museum; while instead of two outline studies from casts an architectural design will be required: in addition to which architects will have to pass an examination in perspective and the history of architecture.

Within the last twelve months we have heard a good deal about standardization in England. This is an age of standards, though they are no such unusual things, for screw threads, the steps of builders' and firemen's ladders, and the ratlines of a ship have long since been standardized. There can be no doubt, however, that the standardization of steel sections, which is now accomplished, will have a far-reaching effect on British industry. The standardization of bricks has advanced since I last referred to the matter in these columns. The proposals have been actively taken up by the Royal Institute of British Architects, and the recommendations now adopted are practically those published in THE BRICKBUILDER for September, 1901; that is, eight stretchers laid square end and splay end in contact to measure seventy-two inches and eight headers side by side thirty-five inches, with four courses and four one-fourth inch joints to the foot. A margin

NURSES' HOUSE OF THE NEW HOSPITAL FOR WOMEN, EUSTON ROAD, LONDON.
Horace Field, Architect.

of one inch in the length measurement and one-half inch in the width has met the chief objections raised. It is of course impossible to force brickmakers to produce these sizes only, but it is hoped that architects and engineers will specify the standard size and so insure its adoption; and when that is done the very great inconvenience of having to handle bricks of varying sizes will be done away with.

The Liverpool Cathedral award, and the circumstances surrounding it, are already generally known, but it is not so much known how Mr. Bodley came to be associated with the successful competitor, Mr. Gilbert Scott (grandson of the late Sir Gilbert Scott). Mr. Scott is only twenty-two years of age. The committee hesitated to place the commission of erecting a great cathedral in the hands of one so inexperienced. They decided to abandon the competition. But the injustice and bad policy of doing so were

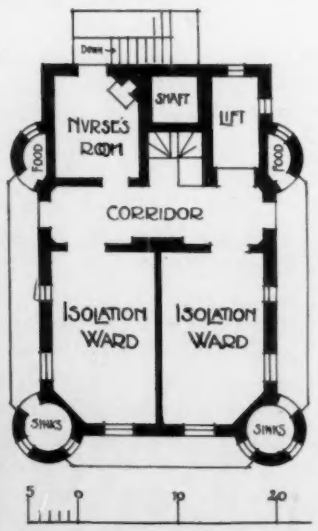


WARD FLOOR PLAN, NEW SURGICAL BLOCK, CHARING CROSS HOSPITAL.

strongly pointed out to them by their assessors, Mr. Bodley and Mr. Norman Shaw; so that they eventually asked Mr. Bodley to coöperate with Mr. Scott. This he declined to do, but offered to act as advisory architect. The committee dissented, stating that unless their proposal were agreed to, the matter would fall through. Hence it was in these circumstances, and to prevent the competition becoming once more a fiasco, that Mr. Bodley finally consented to act conjointly with Mr. Scott.

HOUSE AT STANMORE, MIDDLESEX.
Horace Field, Architect.

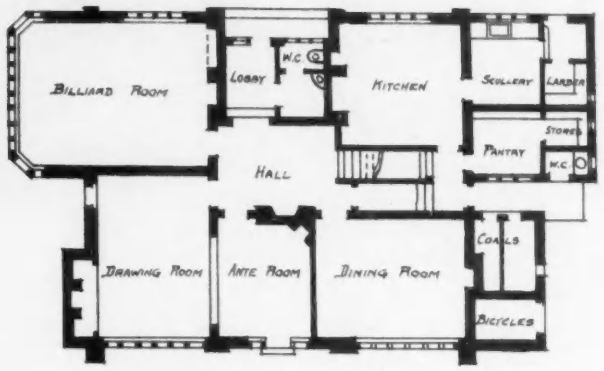
A start has been made with the setting-out of the ground for the National Memorial to Queen Victoria in front of Buckingham Palace, though a long time must elapse before the work is by any means complete. Two notable changes have been made in the scheme since it was last before the public. It seems that the building of London's long-talked-about hotel-de-ville will be connected with the scheme, for the County Council intend to house themselves at the eastern end of the roadway that will lead from the palace to Charing Cross (the extension of the Mall), and we may expect the occasion to institute the largest architectural competition for many years.



FIFTH AND SIXTH FLOOR PLANS.

THE NEW TOWER AT CHARING CROSS HOSPITAL.
Alfred Saxon Snell, Architect.

The reception of Mr. McKim was a most hearty one and appreciation for his work was general among those who saw the large number of photographs which he brought over on the occasion of the Royal Gold Medal presentation. Mr. Aston Webb, the president of the Institute, observed that Mr. McKim's style was based largely on Italian examples and showed French training; it had true artistic feeling, nobility of plan, breadth of treatment, suitability of purpose, and absence of unnecessary or meretricious ornament; and while founded on traditional lines showed just that amount of individuality required, without which the best work must be dull and uninteresting.



FIRST FLOOR PLAN, HOUSE AT STANMORE.

The new library at Kingston-on-Thames, shown among the accompanying illustrations, is of a type of design one would like to see more generally followed in this country. The building is of red brick with stone enrichments, the roof being tiled.

At Charing Cross Hospital a new surgical block and nurses' home are being built. The tower illustrated is noteworthy for its two top floors of isolation wards, which are a special feature of the hospital. Besides being lifted well above all surrounding buildings, each room has three sides open to the air. The sanitary conveniences are placed in the projecting turrets and can be reached from the wards by the open balconies only.

Mr. Lutyens is always individual and the house at Overstrand is particularly characteristic in its treatment.

The Belgrave Hospital for Children, Clapham Road, London, has quite recently been opened and is a good example of the architect's methods in emphasizing the vertical. It is a red brick pile.

The Maurice Hostel at Hoxton needs no comment. The architect is the son of Mr. Alfred Waterhouse, R. A.

The houses at Stanmore and Huntly, by Mr. Horace Field, are both built of red brick with white painted woodwork and red tiles on the roofs. The entrance doorway to the nurses' house at the new hospital for women on the Euston Road, London, W. C., is in white Portland stone; the shutters to the windows are painted green.

Fireproofing.

FIREPROOF CONSTRUCTION.

AT the recent annual convention of the International Association of Fire Engineers held at Atlantic City, Perez M. Stewart, late superintendent of buildings in the Borough of Manhattan, New York City, read a highly interesting paper on fireproof construction. In view of the opportunity afforded Mr. Stewart, while the head of the New York Building Department, to study the advancement made in the design and construction of fire-resisting structures, and the further circumstance that he is a builder of long practical experience, his recent paper is of more than ordinary interest. Following are extracts from it:

SUPERIOR TYPES.

"It would seem to indicate almost mental aberration to seriously question to-day the efficiency of the better types of fireproof construction. No better proof can be wished for of the fact that fireproof construction really does reduce the fire loss than the favorable premium rates granted by fire underwriters on superior types of construction.

"Fire protection is a term broad and elastic. Roughly speaking it may be divided into three parts: (1) the protection from without afforded by the municipality; (2) the ability of the building itself, in consequence of its structural excellence, to withstand the effects of fire, either from within or from without; (3) the multitude of fire-detecting and fire-fighting devices installed in, but not integrally a part of, the building itself.

"Concerning the first division it would be presumptuous for me to speak to this audience.

"Anything like a comprehensive review of the third division would run far beyond the limits of a paper such as this.

"Prior to, however, and during my term of office as superintendent of the Department of Buildings, Borough of Manhattan, somewhat unusual opportunity was afforded me to study the question of fireproof construction pure and simple, and it is concerning a few phases of this that I shall call your attention.

"A careful consideration of the matter of fire protection should convince every owner that the introduction of safeguards against fire will bring a fair return in reduced rates on the increased outlay, besides fulfilling a moral obligation which he owes to his lessees, tenants, neighbors and himself.

DEPARTMENT STORE HAZARDS.

"Several theaters in New York have had their insurance rates materially reduced because of changes in their construction made at the instigation of the Department of Buildings.

"That the fireproof character of a hotel is a most desirable advertisement is indicated by the fact that some proprietors who cannot honestly claim that characteristic attempt to deceive their patrons by untrue representations. One of the large hotels of New York maintains a room in a burnt condition as an indication of what can happen in a fireproof hotel without the knowledge of any of the patrons or the proprietor. A fire that originated in this room nearly burned itself out before any one was aware of it.

"This is preliminary to a question which I wish to ask: Why is so much in the way of municipal regulation given to the subject of theaters and so little to the subject of department stores?

"Municipal regulations all over the country provide for almost every contingency which may occur affecting human life in theaters or other places of public assemblage. Department stores, however, seem to be passed over entirely in the requisites of the city fathers. Theaters and their management are provided for by a code as long as the moral law. In the case of department stores, however, probably three to five times as many people are allowed to congregate to the square feet of building occupied, and yet no adequate provision for their safety is made.

FIREPROOF MATERIALS.

"By fireproof materials is meant such as not only do not burn, but which, under the action of fire, remain intact and preserve their strength or the strength of those parts which they protect.

"As an illustration of the distinction between incombustible materials and fireproof materials, we need only refer to the unprotected as against the protected or fireproof column. Cast iron certainly will not burn, yet the effect of the heat of a fire is well shown in the bulging and collapsing of the unprotected columns of the Hackett-Carhart building at the corner of Broadway and Thirteenth Street, New York City, last winter, causing nearly the entire roof and part of the floor below it to fall in.

SPREAD OF FIRE.

"The danger of the spread of fire in a building increases, first, with the increase in area covered; and second, in greater degree with the increase in height.

"The danger is met in the first instance by providing fire stops in the way of brick walls or fireproof partitions. Any openings that may be necessary in these partitions should be provided with fireproof doors and windows.

"The spread of fire in a vertical direction is undoubtedly most effectively guarded against by making the floors continuous and unbroken, that is, eliminating all openings in the floors and placing necessary means of communication, such as stairways, elevators, pipes, shafts, belts, etc., in shafts entirely separated from the rest of the building by brick walls.

WHERE PROTECTION IS NEEDED.

"Such ironwork as is necessary for the construction of the shaft should be thoroughly protected by fireproof covering. No woodwork whatever must enter into the construction. The necessary openings must be provided with fireproof doors. For this purpose the fire underwriters' door is the best, although for offices and residence buildings it is generally regarded as impracticable on account of its unsightliness. In such cases doors and frames of metal or wood covered with metal, the so-called Kalimined process, which are now being produced in a variety of shapes and finish, can be well used. Door openings should be the only ones allowed in shafts. Where it is necessary to provide light, and it cannot be obtained by windows opening directly to the outer air, it can be

secured by window lights in the doors; or if that is not sufficient, by stationary metal sashes set in metal frames. In all cases the windows should be glazed with wire glass.

"What has been said of elevator shafts applies equally well to interior light and vent shafts, except, of course, that in such cases the window sashes cannot be made stationary.

EXPOSURE HAZARD.

"In a closely built-up location, no matter how much care or money has been expended upon a building to make it safe against fire within itself, there still remains the danger of fire damage, if not destruction, from the outside. Underwriters generally regard a brick wall increasing in thickness from the top down as the most satisfactory protection against the attacks of fire from the outside.

"If a building can be inclosed in solid brick walls on all sides, carried three feet above the roof level, it would be practically safe against fire from the outside. But the public is not yet ready to sacrifice the space necessary for the interior courtyard that would be required for light and ventilation purposes under such conditions.

"One of the most potent natural conditions tending to augment the fire loss is what is known as the exposure hazard. This defines the likelihood of a building to become ignited by a fire from without the walls. Tables of fire loss, covering a number of years, show that nearly one-third of the fire loss of the country is due to the exposure hazard. Fire is communicated from one building to another in almost every case through wall openings, through doors or windows, and to provide against this danger fire protectionists have devoted some of their best endeavors.

FIRE DOORS AND SHUTTERS.

"Since wall openings must normally be open more or less of the time, either to traffic or to the passage of light, the first form of protection took the obvious form of a sheet-iron door or shutter arranged to be closed at night. Practical experience, however, soon showed that any considerable amount of heat warped the sheet-iron shutter to such an extent as to seriously impair its usefulness. A great improvement on the iron shutter came with the design of the tin-clad wooden shutter, a device without a superior for many forms of wall opening protection. As applied to the windows of mercantile establishments, however, the tin-clad shutter shared with the sheet-iron shutter several defects. It did not admit a night fire in a building to be seen from the outside; it did not lend itself readily to the adaptation of devices to close the shutter automatically in the event of fire, and it was very unsightly.

WIRE GLASS WINDOWS.

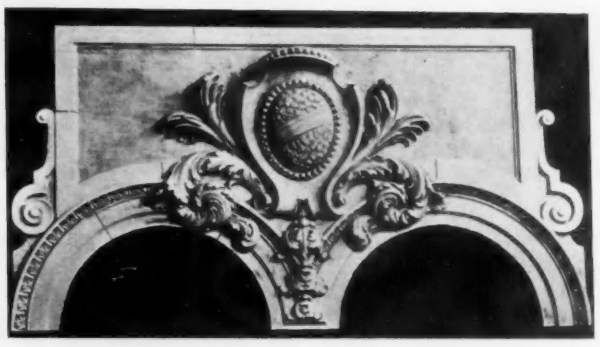
"Among the recent important fires showing the efficiency of wire glass windows in reducing the exposure hazard may be cited the Armour Lard Refinery, Union Stock Yards, Chicago; the Case Plow Works in Racine, Wis., and the Mitchell Wool Warehouse in Philadelphia. In each of these instances the spread of fire to very valuable properties standing but a few yards distant was prevented through the resistance offered by wire glass windows in the walls of the adjoining building."

Selected Miscellany.

PULLING A BUILDING TOGETHER.

THERE are several things we understand better in this country than they do on the other side of the Atlantic. The St. Pancras Midland Railroad Freight Depot in London was visited by a fire, and under the influence of the heat the girders, which to judge from the accounts were not protected at all, expanded sufficiently to throw the walls perceptibly out of line. The advent of the fire department and the chilling effect of large volumes of water which were thrown into the building then caused a reaction which resulted in the walls being gradually pulled back into position as the metal cooled. An application of a similar principle has been often used

DETAIL BY BEEZER BROTHERS, ARCHITECTS.
Northwestern Terra-Cotta Co., Makers.



DETAIL BY SASS & SMALLHEISER, ARCHITECTS.
New Jersey Terra-Cotta Co., Makers.

DETAIL BY CHARLES B. MEYERS, ARCHITECT.
White Brick & Terra-Cotta Co., Makers.

COURTHOUSE, HAMMOND, IND.
J. T. Hutton, Architect.
Covered with American S Tile furnished by Cincinnati Roofing Tile & Terra-Cotta Co.

in this country to rectify irregularities in a brick wall. A short time since, the side wall in a large building in a western city bulged so far out of line that the authorities intervened and a total collapse of the structure was looked for. The difficulty was remedied by connecting the two opposite walls across the building at short intervals by two-inch iron rods with nuts and heavy washers on the ends. Alternate rods were heated and the expansion taken up by turning in the nuts. Then as the wall was drawn in by the contraction of the iron on cooling the remaining bolts were heated and in their turn tightened, and the process repeated until a bulge of some eight or ten inches was effectually counteracted. This process is an excellent one when it is carried out intelligently. But we remember one occasion in which the same system was tried but the strain on the rods was so great that, though they expanded with the heat, they were simply pulled out again under the contraction, and it was the rods instead of the brickwork which gave way.

SWAYING SKY-SCRAPERS.

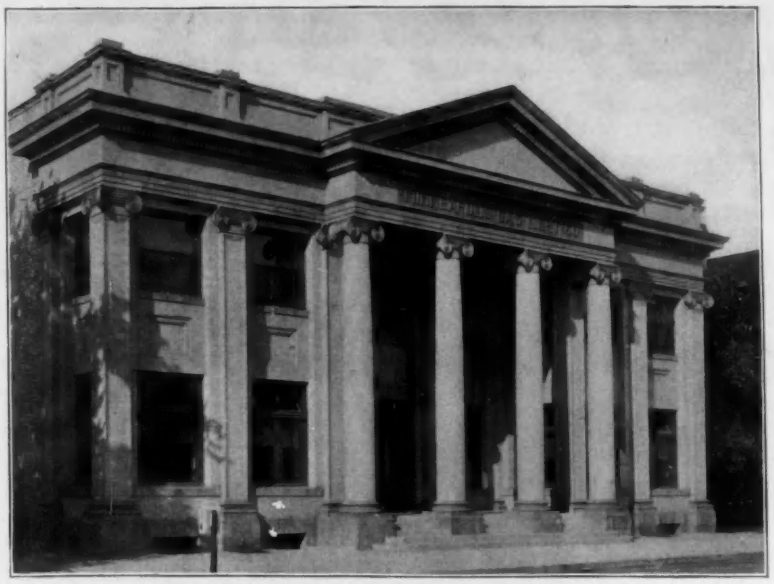
It is extremely interesting to note the varying accounts in the papers of the behavior of the Flatiron building, New York, during a storm which recently passed over the city. According to one witness the upper portion of the structure rocked like a ship in a gale. According to another nearly all the glass in the windows was shivered in fragments and portions of the coping stones were hurled to the ground, while many confess to have been able to see a very marked oscillation in the structure. In the absence of scientific testimony we are inclined to believe that nearly all of this is the effect of the imagination. Some years since, when the American Surety building was newly built, similar statements were made about its behavior in a storm, and to test them the superintendent suspended a heavy plumb bob by a fine piano wire, dropping through a height of fifteen or more stories, the bottom being arranged to be self-registering. He was unable to detect the slightest motion during the heaviest wind storm. The Flatiron building is thoroughly well built, is a thoroughly substantial structure, and while we would not be so rash as to claim that it did not move at all, we very much doubt that any one could have detected motion without the most scientific investigation. If any one looks up against the sky toward any tall stationary object, that object seems to be at the point of toppling over. It is an optical delusion which is often noticed, and might easily account for what observers claim to have clearly distinguished in connection with the Flatiron building.

BUILDING, JACKSONVILLE, FLA.
J. H. W. Hawkins, Architect.
Built of "Ironclay" Brick.

DETAIL BY HARRY ALLEN JACOBS, ARCHITECT.
Excelsior Terra-Cotta Co., Makers.

IN GENERAL.

The Atelier Donn Barber of New York City gave its third annual "smoker" on October the first. The projects rendered during the past year were exhibited, and talks were given by



MINNEAPOLIS GAS LIGHT CO. BUILDING.
Brick furnished by Columbus Brick & Terra-Cotta Co.
Terra-Cotta by Winkle Terra-Cotta Co.

DETAIL BY A. H. VINAL, ARCHITECT.
Standard Terra-Cotta Co., Makers.

Mr. Barber, Mr. Carrère and Mr. Louis Metcalf, also by Professor Hamlin of Columbia College, and Lloyd Warren, chairman of the Committee on Education of the Society of Beaux Arts Architects.

Eli Benedict, architect, has taken an office in the new building at No. 1947 Broadway, New York City, and would like to receive manufacturers' catalogues and samples.

E. Brielmaier & Sons, architects, Milwaukee, Wis., have opened a branch office at 640 Broadway, New York City, and would be pleased to receive catalogues and samples of building materials.

Browne & Joy, engineers and architects, First National Bank Building, Birmingham, Ala., desire manufacturers' catalogues and samples.

Special attention should have been called to a feature of the tile roof of the house, Buena Park, Ill., George W. Maher, architect, shown in the inserted pages of our September number. The roof is the closed shingle pattern of the Celadon Company, and the feature referred to is the special hip roll, designed for shingle patterns carrying the line of each course unbroken around the angle of the hip, which gives a quiet, and highly artistic effect to the entire roof.

DETAIL BY CLINTON & RUSSELL, ARCHITECTS.
Atlantic Terra-Cotta Co., Makers.

The Kendrick Promotion Company, Denver, Colo., are about to erect new plants for the manufacture of common and high-grade bricks, also cement and plaster. The land which this company owns, which is in close proximity to the city of Denver, contains millions of tons of clays which are particularly well adapted for the manufacture of the better grades of brick. This same land is also rich in cement material and lime rock in large quantities.

HARLEM CASINO, NEW YORK CITY.
Alfred Zucker, Architect.
Front brick made by Ohio Mining & Manufacturing Co., Pfotenhauer & Nesbit, New York Agents.

In the fall of 1872 the Union Akron Cement Company, through its Chicago house, furnished 2,100 barrels of the Akron (Star Brand) Cement to the United States government, for putting in the lower part of the concrete foundation for the Chicago post office.

Nearly twenty-five years afterward, during the spring of 1897, the Chicago post office was taken down, to make room for a new and larger building.

In the May, 1897, issue of the *Cement and Engineering News*, the following in reference to the concrete foundation is found: "In the wrecking of the Chicago post office, the contractor encounters a mass of 14,000 cubic yards of concrete, underlying all foundations, walls

DETAIL BY HERTS & TALLANT, ARCHITECTS.
Perth Amboy Terra-Cotta Co., Makers.

and vaults, while a continuous mass or slab of concrete covers the entire area of the building from three feet six inches to four feet six inches thick. The space between the underside of the basement floor and the top of the concrete slab is filled in with Louisville cement; this yields easily to only slight efforts. The *concrete slab composed of a higher grade of cement is tough and refractory* and is giving the contractors much trouble, and is the cause of the delay in clearing the site, and involves a penalty of $100 per day to the contractors, running since April 1. The work of removal of this large body of concrete is being vigorously prosecuted by the aid of numerous steam drills and dynamite. Even this proves a slow and tedious process, and is an object lesson as to the respective qualities of a good and sometimes indifferent cement."

CHAPIN BUILDING, BUFFALO, N. Y.
E. H. Kent, Architect.
Terra-Cotta furnished by the New York Architectural Terra-Cotta Co.

The following is an extract from a letter received by them from the Chicago House Wrecking Company who had the contract for taking down the old post office building:

CHICAGO, ILL., December 3, 1897.
UNION AKRON CEMENT COMPANY, Buffalo, N. Y.

Gentlemen,—Answering yours of November 23, regarding foundation of the post office building, will say regarding its resistance to the drills and dynamite, that it was a very tough composition, and it was the worst thing we

IRVING NATIONAL BANK BUILDING, NEW YORK CITY.
Built of light gray Roman brick, made by Kreischer Brick Mfg. Co.

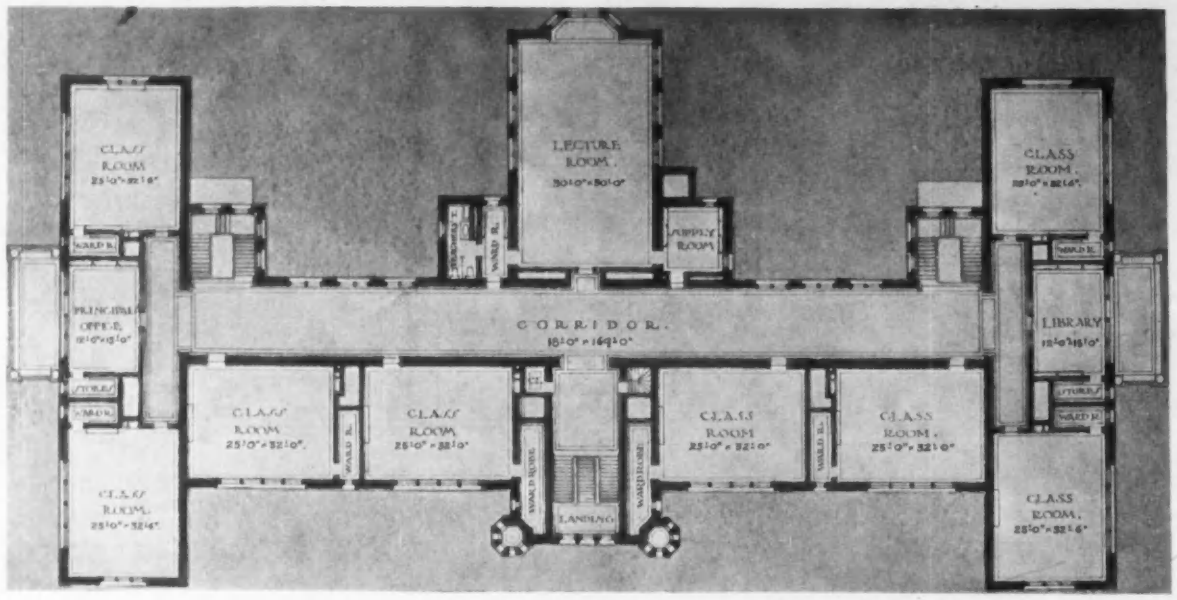
ever ran up against. We had to drill holes every eighteen inches, and we used five times the amount of dynamite figured upon. It was very slow work, without any satisfactory results. Yours truly,

CHICAGO HOUSE WRECKING COMPANY.

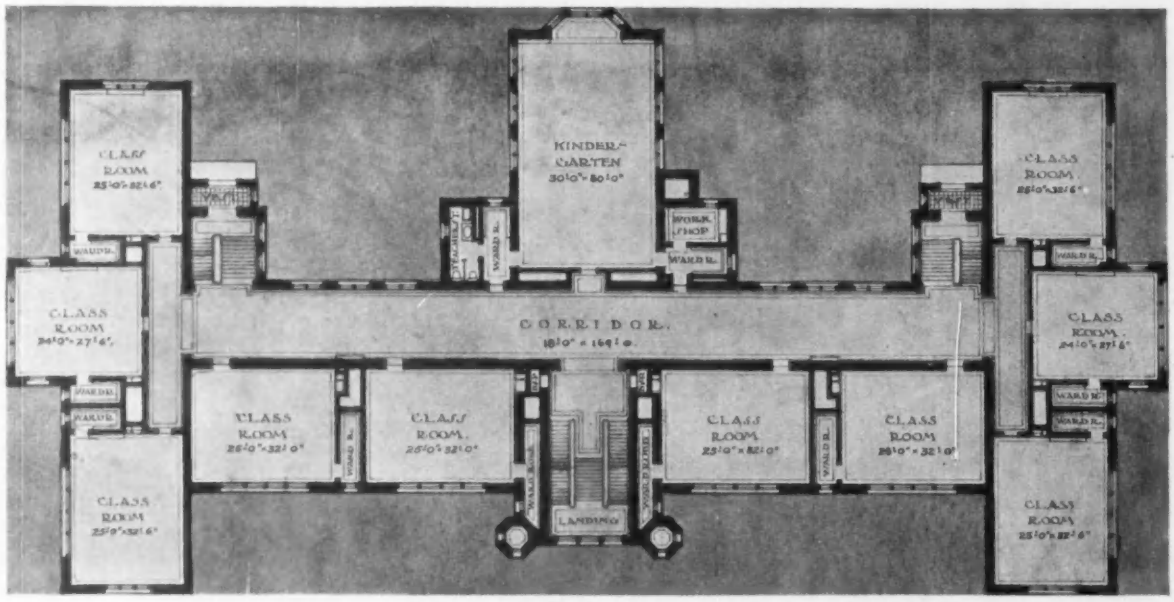
The concrete slab mentioned herein, that was so *tough and refractory*, was made with the Akron (Star Brand) Cement.

DRAWING
ARCHITECTURAL, MECHANICAL, PERSPECTIVE
TAUGHT BY MAIL.
COURSES OF THE GREATEST VALUE TO OFFICE MEN AND STUDENTS.
Correspondence courses also offered in Electrical, Steam and Civil Engineering, Heating, Ventilation and Plumbing, Architecture, Carpentry and Building, and a full curriculum of other engineering courses.
In addition to their regular instruction papers, students in full Engineering courses are furnished a technical Reference Library (in ten volumes) as a help in their studies.
Illustrated 180 page Catalogue sent FREE on request.
AMERICAN SCHOOL OF CORRESPONDENCE
at Armour Institute of Technology, Room 16D, Chicago, Ill.

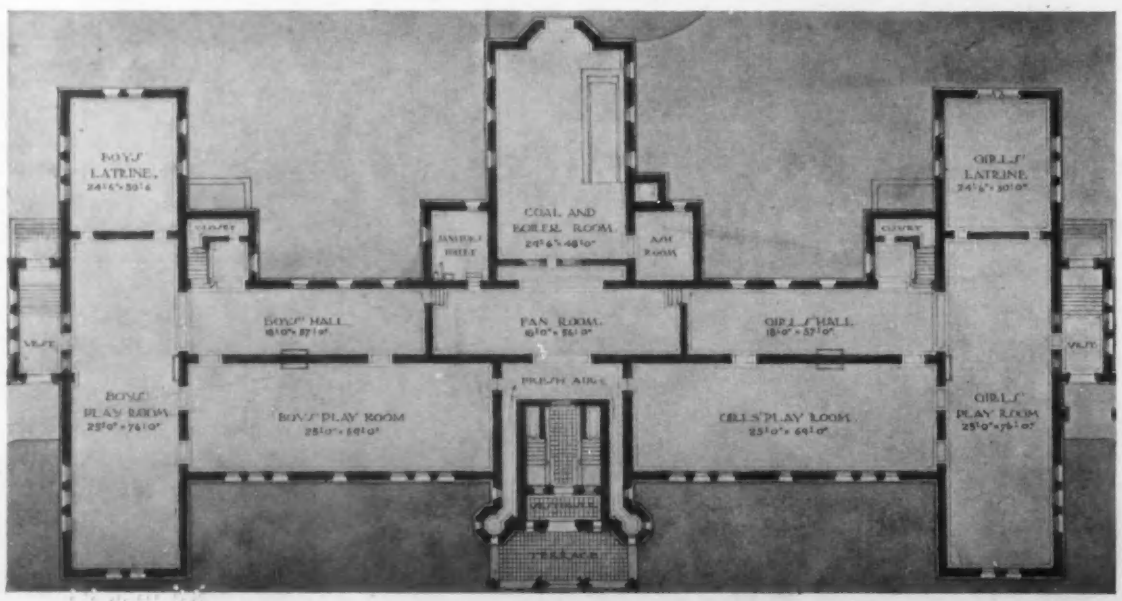
Mrau



SECOND FLOOR PLAN.



FIRST FLOOR PLAN.

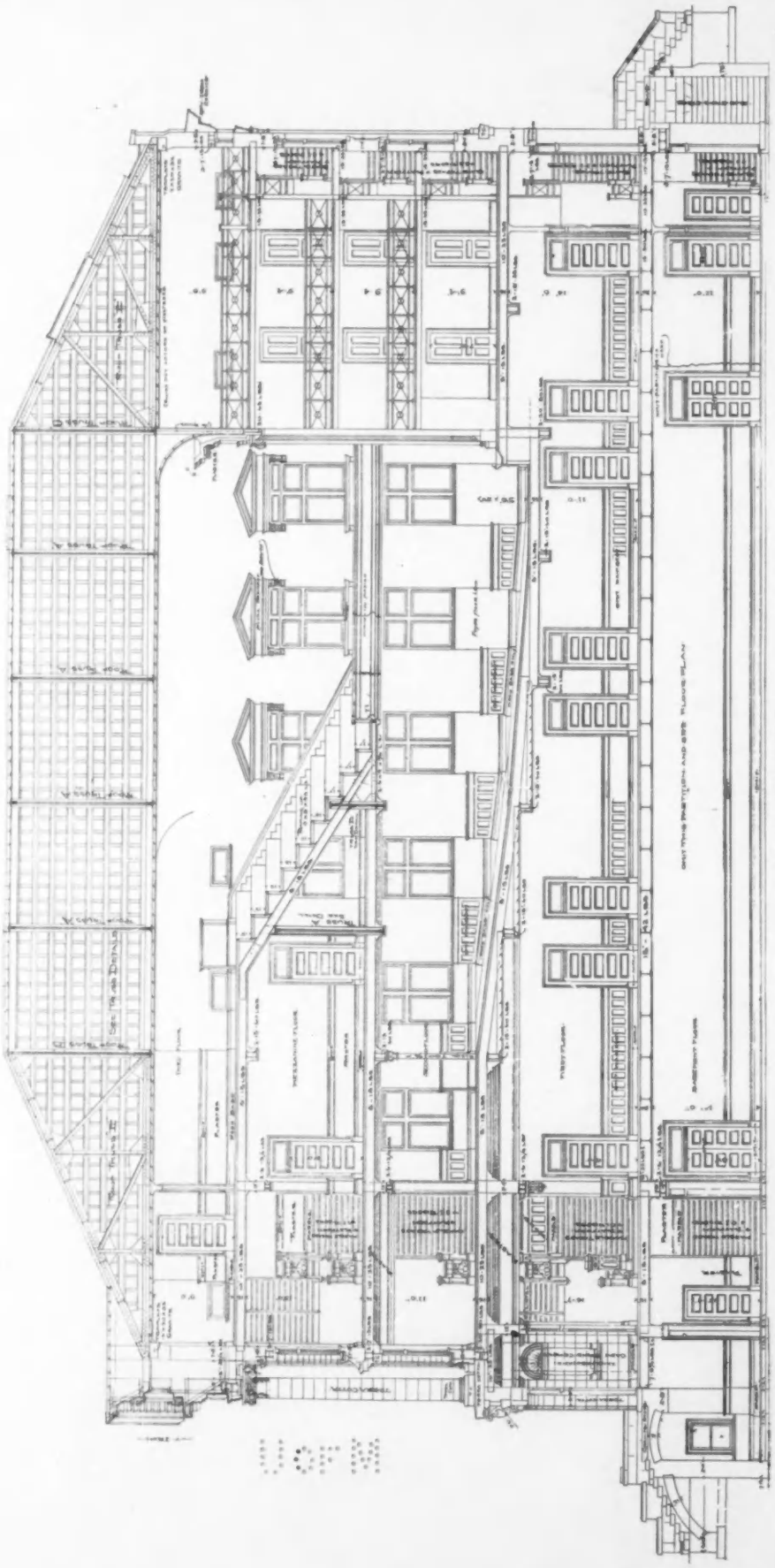


BASEMENT PLAN.

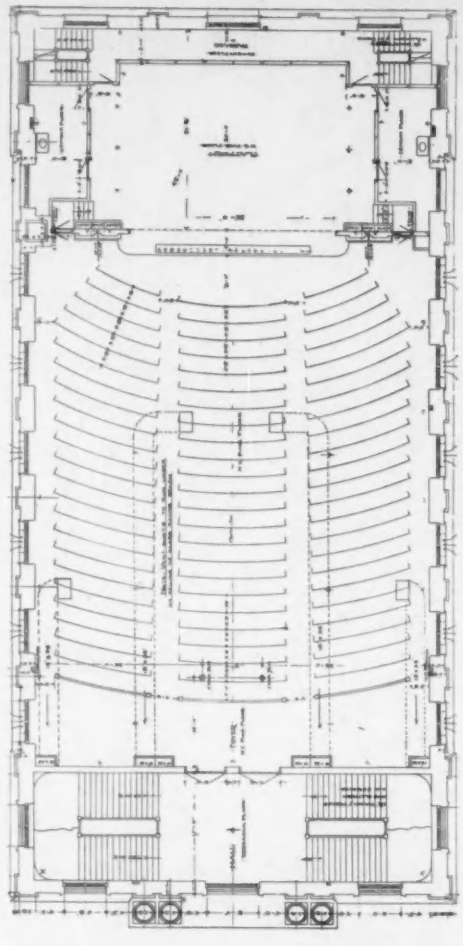
PLANS, EDWARD WYMAN SCHOOL, ST. LOUIS MO.

WILLIAM B. ITTNER, ARCHITECT.

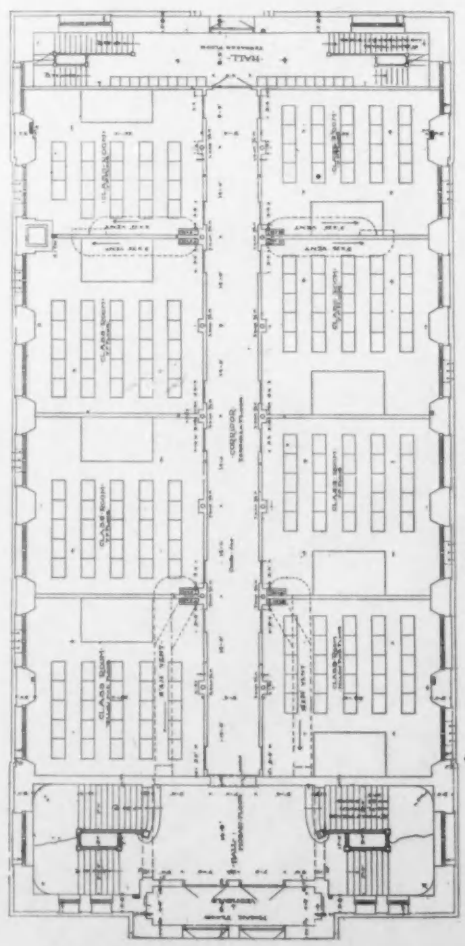
MOU



LONGITUDINAL SECTION.



SECOND FLOOR PLAN.

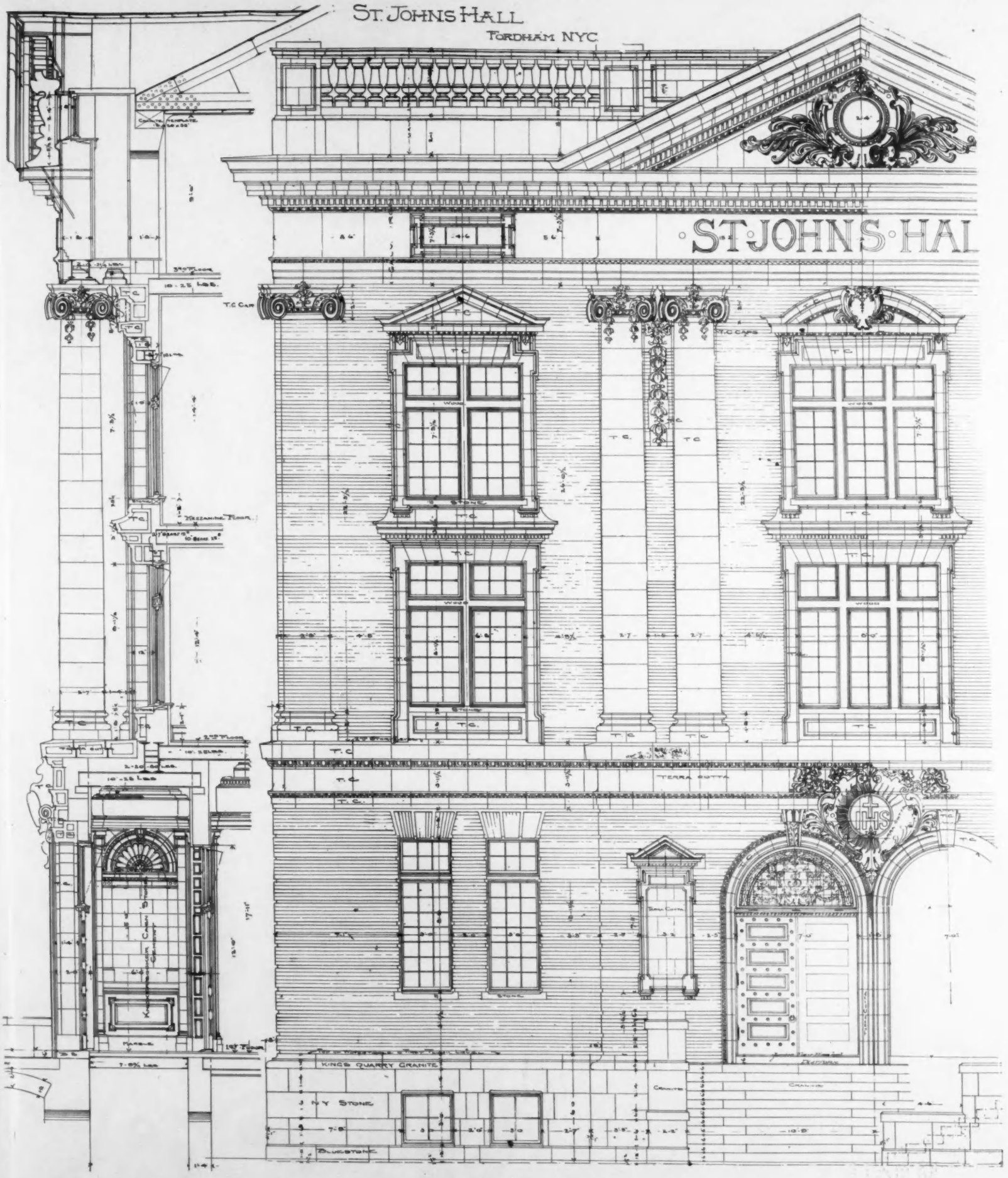


FIRST FLOOR PLAN.

ST. JOHNS HALL (FOR EDUCATION OF YOUNG

JOHN E. KERBY, A

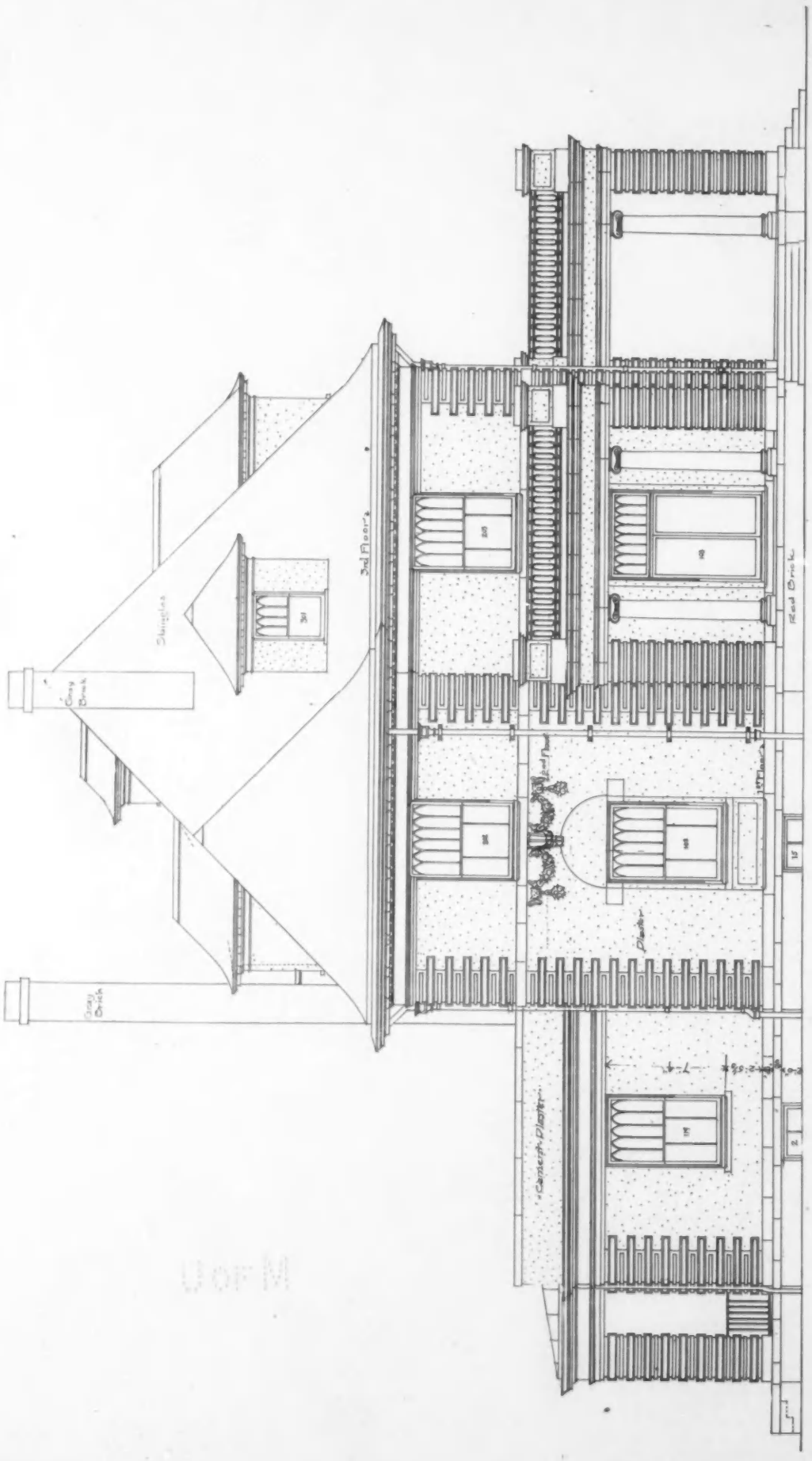
PLATES 74 and 79.



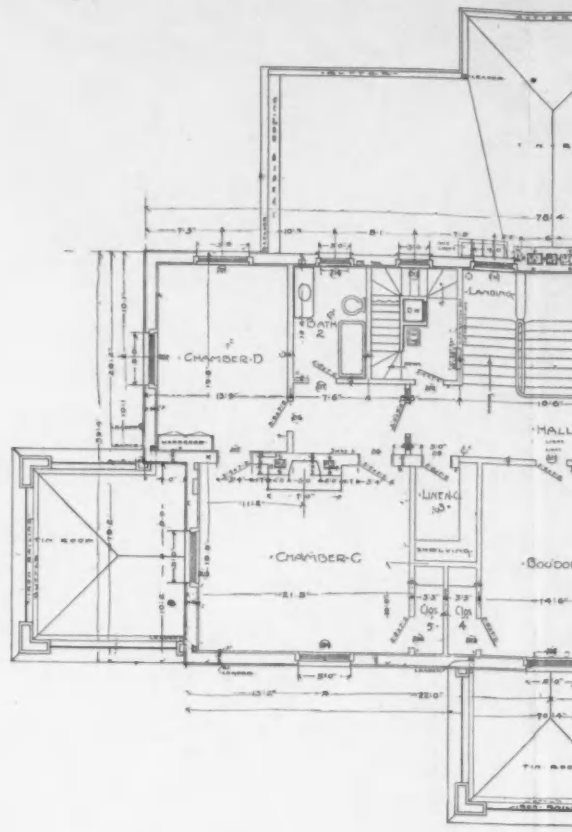
DETAIL OF FRONT ELEVATION.

N OF YOUNG PRIESTS), FORDHAM, NEW YORK CITY.

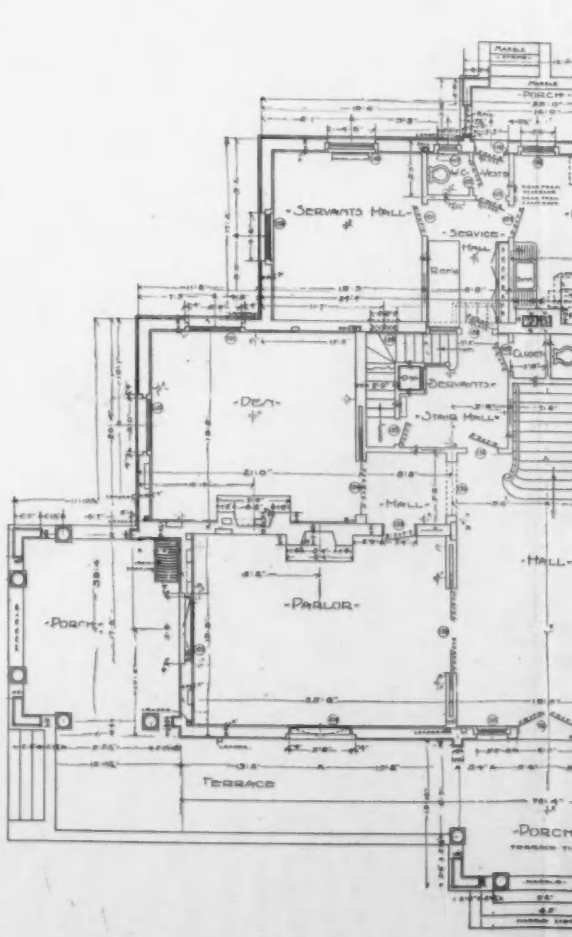
OHN E. KERBY, ARCHITECT.



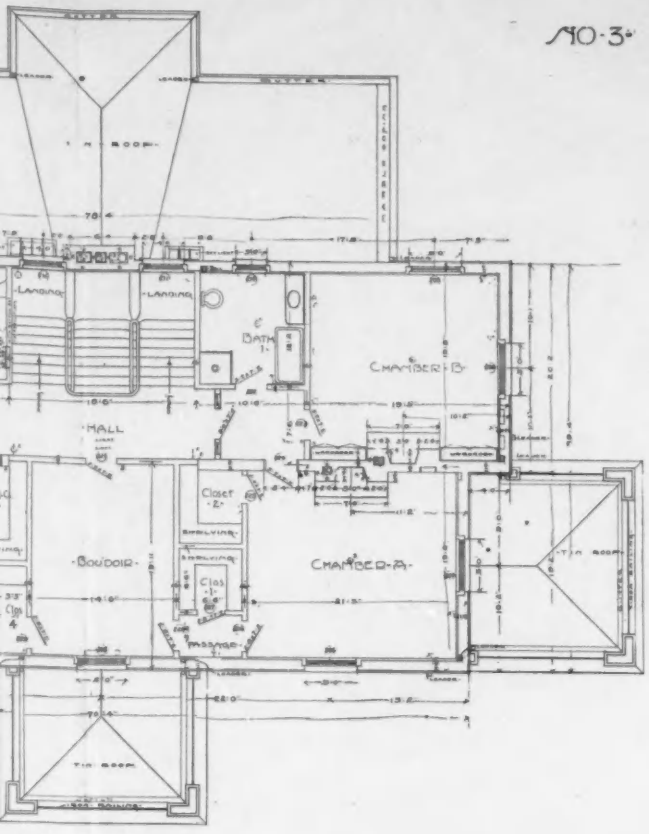
SIDE ELEVATION.



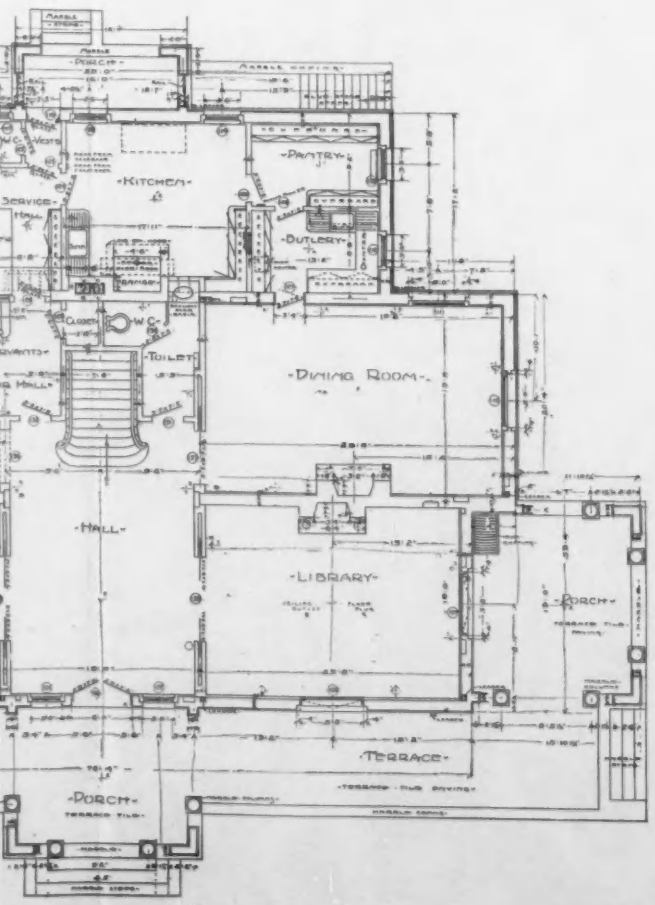
SECOND FLOO



FIRST FLOOR

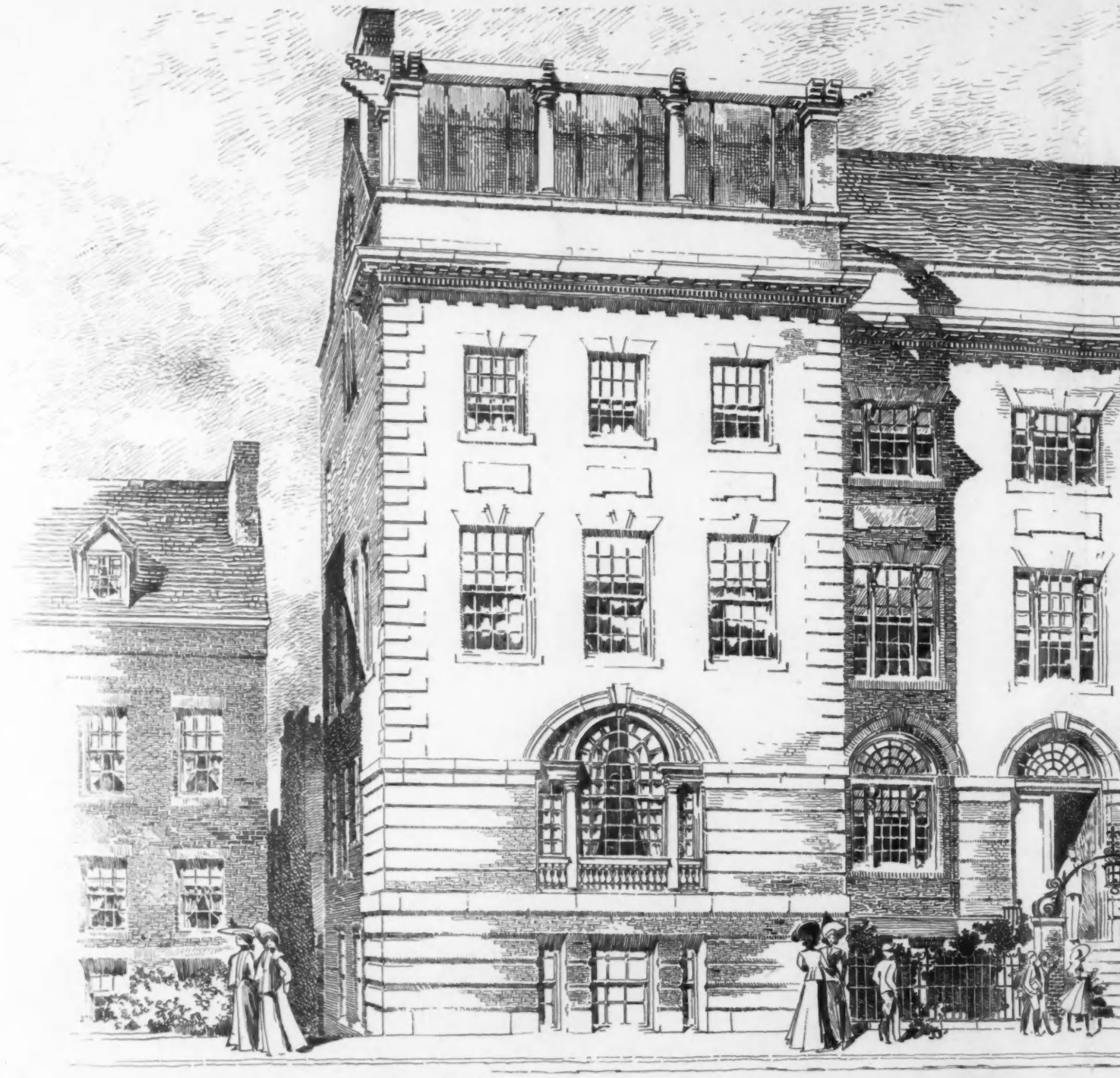


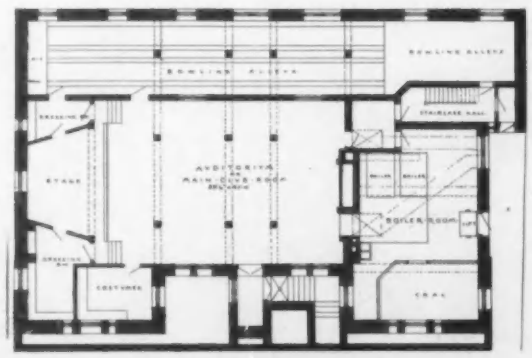
SECOND FLOOR PLAN.



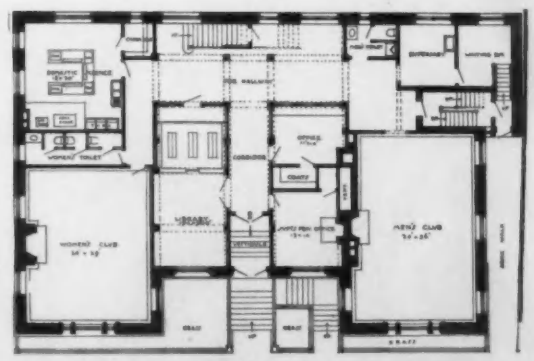
FIRST FLOOR PLAN.

Shingles
Ceiling
3rd Floor
Wood
Marble
Plaster
Cement Plaster
Copper
Shingles
Marble
Marble
Marble





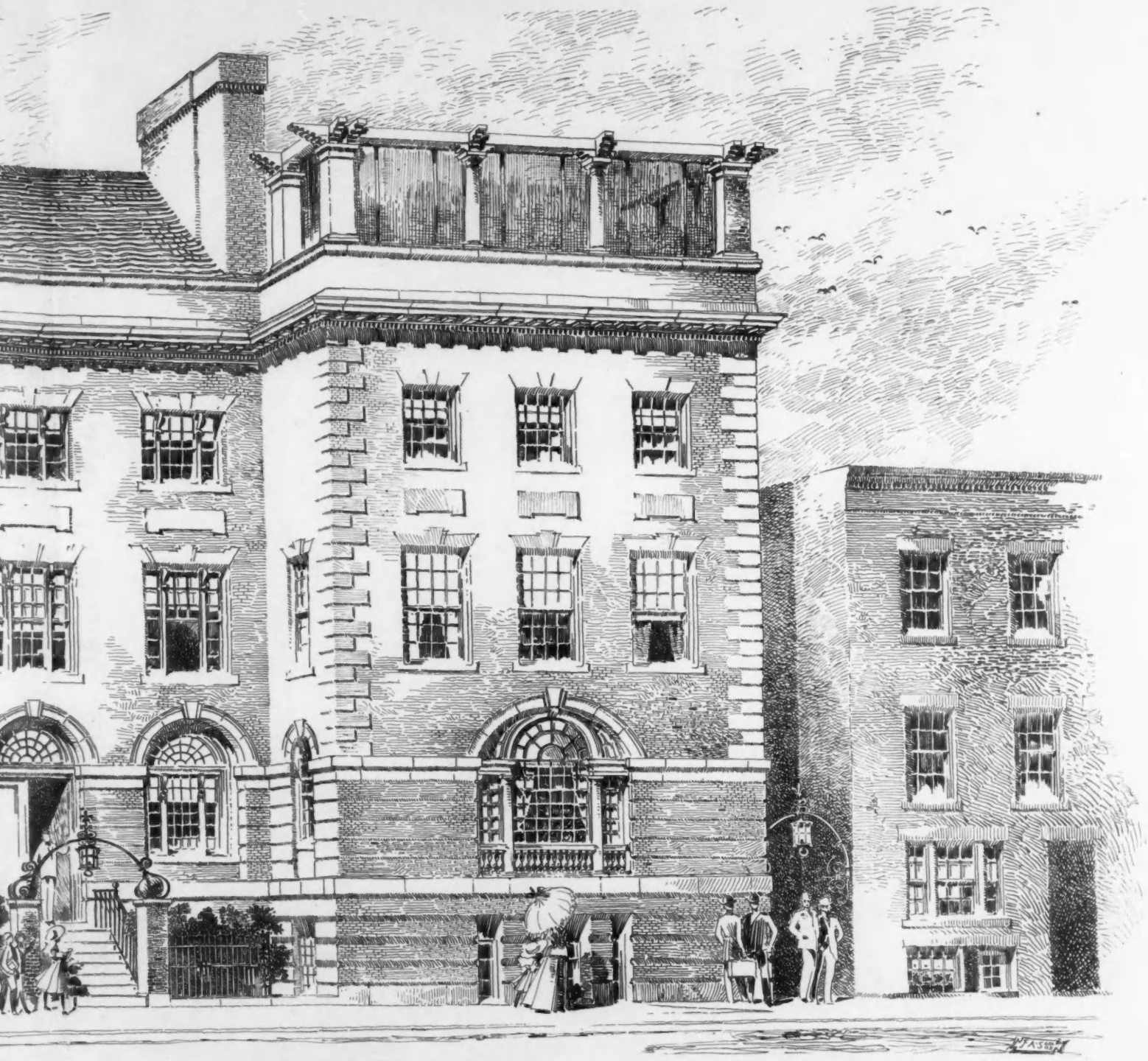
BASEMENT PLAN.

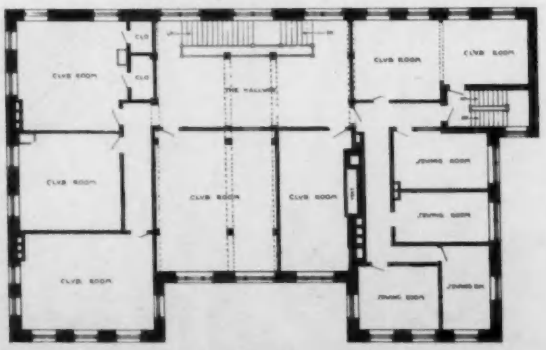


FIRST FLOOR PLAN.

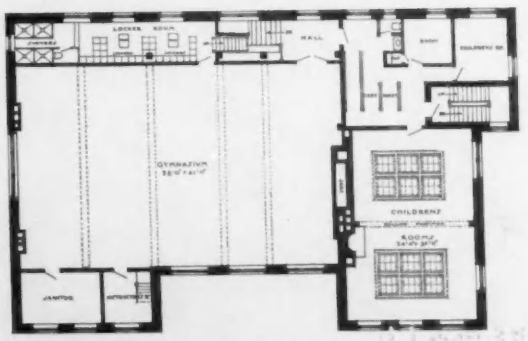
CLUBHOUSE FOR THE LINCOLN HOUSE ASSOCIAT

PLATES 76 and 77.



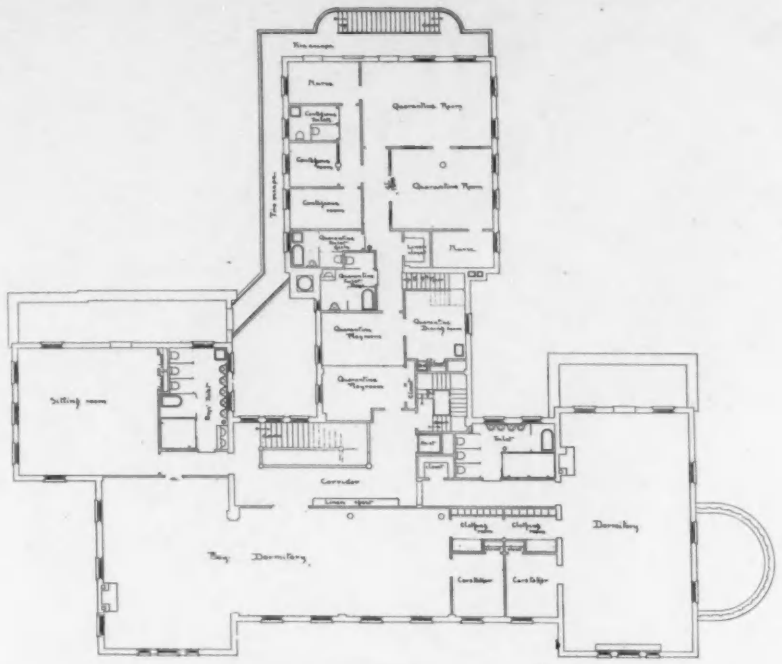


SECOND FLOOR PLAN.



THIRD FLOOR PLAN.

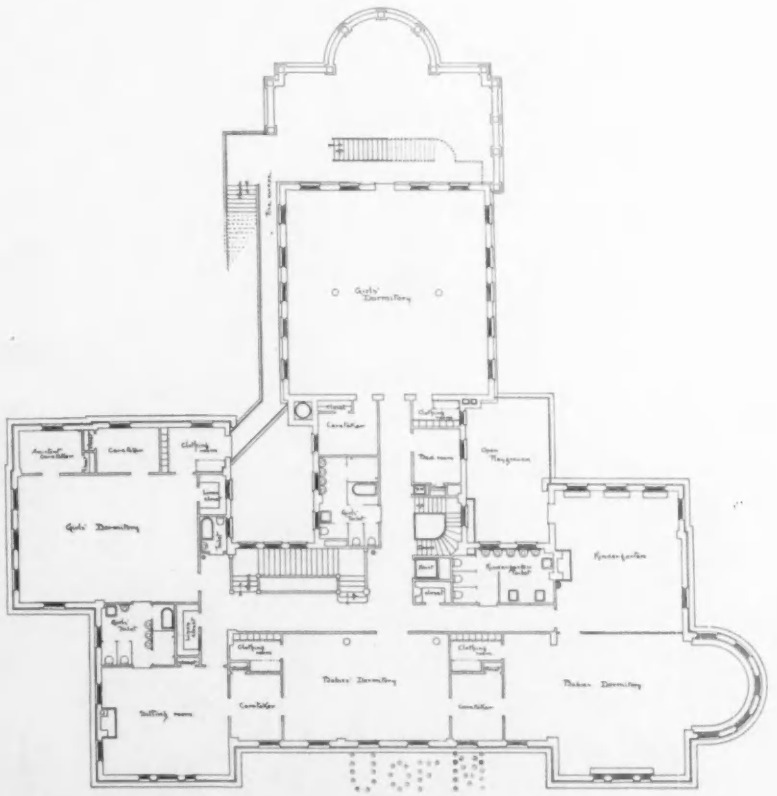
E ASSOCIATION, BOSTON. J. A. SCHWEINFURTH, ARCHITECT.



THIRD FLOOR PLAN.

FOURTH FLOOR PLAN.

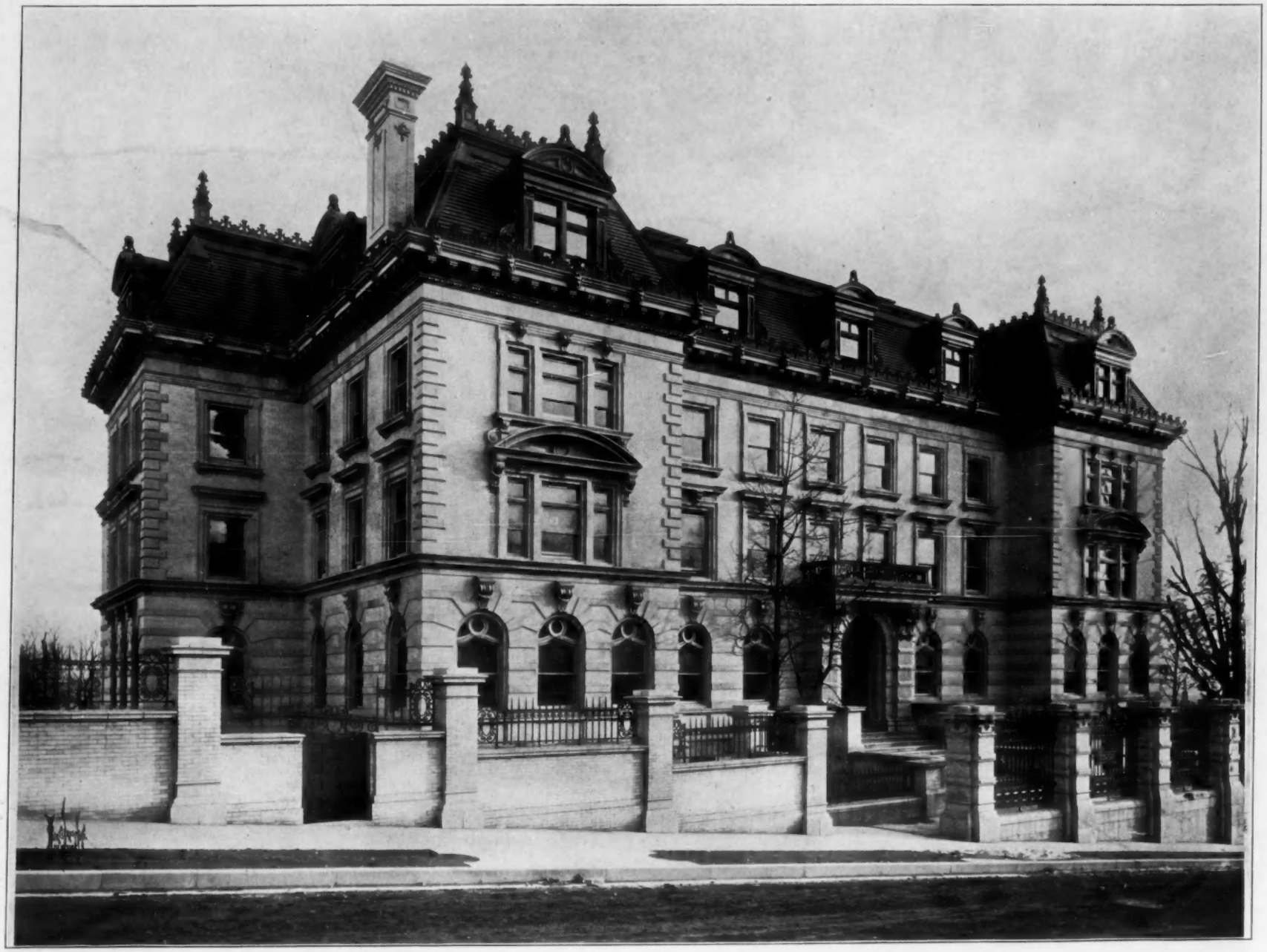
FIRST FLOOR PLAN.



SECOND FLOOR PLAN.

PLANS, HOME FOR THE FRIENDLESS AND FEMALE GUARDIAN SOCIETY, NEW YORK CITY.

WILLIAM BURNET TUTHILL, ARCHITECT.



HOME FOR THE FRIENDLESS AND FEMALE GUARDIAN SOCIETY, NEW YORK CITY.

WILLIAM BURNET TUTHILL, ARCHITECT.

HOUSE AT PROVIDENCE, R. I.

CARRÈRE & HASTINGS, ARCHITECTS.

HOUSE AT LAKEWOOD, N. J.

BRUCE PRICE & DE SIBOUR, ARCHITECTS.

HOUSE AT PROVIDENCE, R. I.

CARRÈRE & HASTINGS, ARCHITECT.

HOUSE AT OVERSTRAND, NEAR CRAMER, ENGLAND.

E. L. LUTYENS, ARCHITECT.

HOUSE AT HUNTLY, CAMBRIDGESHIRE, ENGLAND.

HORACE FIELD, ARCHITECT.

Uofm

HOUSE AT LAKEWOOD, N. J.

BRUCE PRICE & DE SIBOUR, ARCHITECTS.